

THE BATTLE OF BRITAIN

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Fox Photos

NIGHT PIECE

Fire-fighters in the glow of a controlled conflagration in the
City of London, December, 1940

THE BATTLE OF BRITAIN

1940

16204

By

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With a Foreword by

MARSHAL OF THE ROYAL AIR FORCE

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FOREWORD

It is a great pleasure to be asked to write a foreword for my old friend, Mr. James Spaight, who has studied Air deeply and written many valuable works on the subject. I am sure his readers will be interested, as I have been, in the facts and details which he sets out so clearly and vividly and in drawing their own conclusions.

To my mind every word that he writes only goes to stress the paramount importance of efficiency. Efficiency demands, first, the very best training of the pilots and all those called upon to support the battle in the air, and, secondly, a very high standard of mechanical equipment. For there is no branch of the fighting services—not even the armoured cars and tanks of the Army—where the mechanical element is so important as in the Air.

In mechanical warfare numbers are of infinitely less importance than the quality of the equipment. Quality is the enemy of quantity, but still it is the quality that counts.

What greater object lesson could we possibly have than the series of aerial engagements last year which Mr. Spaight calls 'The Battle of Britain'? These showed conclusively that the more efficient types of aeroplane and the better trained pilots can take on ten times their number and defeat them completely.

Had Napoleon lived to-day, he would never have said: 'God is on the side of the big battalions.'

The same is true of the Army and the Navy, as well as of the Air Force, and may England remember it—both her Government and her public. We see on all sides the Press filled with statements that when we have equality of numbers with Germany then we will beat them. Never do we hear the real truth that thoroughly trained and equipped with the most up-to-date and efficient machines we will beat them whatever their numbers.

TRENCHARD

Marshal of the Royal Air Force

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J. M. S.

CHAPTER I

The Battle of Britain Opens

Germany's Purpose in the Battle

Obviously, a complete history of the Battle of Britain cannot yet be compiled. It is still raging as these words are written. The story can be told, however, of the Battle of Britain, 1940, and it is a story worth telling, for it has a heartening lesson for us in these dark and anxious days. In the six months and more since the storm of attack broke upon our island fortress we have withstood, half-accoutred, the might of a fully panoplied Germany. When we are ourselves as powerfully armed, who can doubt the issue of the struggle? Our might, the might of a great Empire, is being marshalled. We are growing stronger every day. Germany's strength has reached its peak. The future is ours—on one condition: that we can continue to re-arm, to gather in the weapons of war which the western world is proffering to us with generous hands, to forge our own weapons here at home, to remain steadfast and confident to the end.

It has been Germany's aim in this first stage of the Battle of Britain both to subjugate us by violent onslaught and to prevent us from re-arming. She has seen the writing on the wall. She knows that unless she can interrupt the process of our re-equipment

and stop the transfer to us of the huge supplies of war material of all kinds, and especially aircraft, which are being amassed in America, her doom is sealed. She will be battered to death by sheer weight of metal if that process, that transfer proceed. So, by assaults from the air upon our centres of production in this country, and from the air and from below the surface of the sea upon the shipping which brings us the American armaments, she has been seeking to halt the movement which bodes death to her if it continues. The U-boat campaign is as definitely a part of the Battle of Britain as is the air attack upon our cities. It is indeed the greatest of the dangers with which we are confronted. Its success would mean far more than the interruption of the flow of American munitions. It would mean absolute disaster for us as a nation. For us, too, the cry would be: 'What of the ships, O Carthage! Carthage, what of the ships?' Our survival depends on the safety of the maritime traffic which it is Hitler's plan to interrupt. To defeat the submarine is for us the most important task of all. Defence against the air attack is, in comparison, of secondary moment.

A Decisive Battle in the Air

Meanwhile the air battle rages. It is a battle which is a series of battles, a protracted encounter segmented and split up into a number of individual engagements and marked by stages which it is not easy to distinguish. Already it has begun to take its place among the great battles of history. In the last two months, said Mr. Amery, the Secretary of State for



THE INTERCEPTORS TAKE-OFF

Three Hurricane fighters, their wheels not yet retracted, take-off to intercept an enemy attack

India, in a speech at Gosport on October 27, we had won one of the decisive battles of history. The aerial battle waged over England in August and September, said Major-General J. E. Chaney, of the United States Army Air Corps, on December 3, would be bracketed in history with Marathon and Waterloo as one of the world's decisive military engagements. So far, that battle, he stated, had been won by Britain.

Our Dark Hour in June, 1940

It was a sombre moment when the Battle of Britain began. The Battle of France had just been lost. France had collapsed. Our Expeditionary Force had been bundled neck and crop out of Dunkirk. All its splendid equipment remained as spoil of war in German hands. No such loss of *matériel* had ever occurred in the annals of British arms. Tennyson, in his ode on the death of the Iron Duke, was able to say that he 'never lost an English gun'. We lost thousands in the Battle of France. Coming after the unfortunate episode of our adventure in Norway that great defeat in France—for such it was—might well have taken the heart and spirit out of the people of this country. The fact that the Navy, with the help of the Royal Air Force and the merchant seamen and boatmen, saved the officers and men of the British Expeditionary Force when they seemed to be doomed to capture in Dunkirk, relieved the gloom that was beginning to spread. Then came another event which went far to shatter our confidence again: France, stricken, reeling, half-stunned, fell

out of the fight which she had pledged herself to wage to the end at our side. From the effect of that second blow to our national morale the Royal Air Force saved us by its magnificent response to the stupendous calls made upon it in the weeks that followed.

The Epic of Dunkirk

Already on the beaches of Dunkirk the fighter squadrons of the Royal Air Force had met and mastered the *Luftwaffe*. There was laid the scene of the preliminary encounter which was to be followed by the sterner clash in the Battle of Britain. Dunkirk will stand for ever among the battle-honours of our Air Force. The setting for the trial of strength there was one which would have gladdened the hearts of those enthusiasts whose dream has always been the pitting of the air arm against the older arms of war. Beside the tidewater there stood arrayed the scores of thousands of wearied troops awaiting embarkation and offering as they did so an ideal target for attack from the air. Along the coast there lay a packed multitude of ships and boats of every imaginable kind, waiting to rescue the men on the beaches, and again, presenting a perfect target to the German bombers above. Those bombers filled the air. Their bases were not distant and they could return again and again to rain their explosives upon the soldiers and the ships below. No more favourable opportunity could well be conceived for a strong bombing force to demonstrate its ability to smash and shatter enemy forces, on ground and sea: forces

which seemed simply to invite and await annihilation.

The annihilation never came to pass. The great air attack was met and broken by the Royal Air Force. Our fighter squadrons played a part second only to that of the Navy in saving the Expeditionary Force from destruction. Our pilots hurled themselves upon the German bombers, broke up their formations, spoiled their aim, made accurate bombing out of the question, harried and hunted them until that wonderful deliverance was achieved.

'There was a victory inside this deliverance,' said Mr. Churchill in the House of Commons on June 4. 'It was gained by the Royal Air Force. . . . There was a great trial of strength between the British and German Air Forces. Can you conceive a greater objective for the Germans in the air than to make evacuation from those beaches impossible and to sink all those ships which were displayed to the extent of almost a thousand? Can there have been an objective of greater military importance and significance for the whole purpose of the war than this? They tried hard and they were beaten back; they were frustrated in their task. We got the Army away; and they have paid fourfold for any loss they have inflicted.'

'The Knights of the Round Table, the Crusaders', he added, 'all fell back into a prosaic past, not only distant but prosaic, before these young men going forth every morn to guard their native land and all that we stand for, holding in their hands those instruments of colossal and shattering power,

of whom it may be said that "Every morn brought forth a noble chance and every chance brought forth a noble deed." '

It is a wonderful story, that of the air fighting over Dunkirk, and it is directly relevant to the story, wonderful, too, and still being unfolded, of the aerial Battle of Britain. It was at Dunkirk that our fighters won their spurs, there that they established their superiority in combat to the airmen of the *Luftwaffe*. What our Spitfires, Hurricanes and Defiants accomplished at Dunkirk was a good augury for the days of trial to come.

The Battle of Britain Begins

That trial was not long delayed, and once more the Royal Air Force was not found wanting. Again it met and broke the onslaught of the German Air Force, round and over our own coasts and above our fields and towns. To the Battle of France there succeeded the Battle of Britain. There was, in truth, no real breathing-space between them. Such respite as there was in appearance was in fact only the brief and uneasy fragment of time necessary for the staging of the second round of the affray. The air battle over France had hardly ceased when the air battle over England began.

The air battle over England began, according to Major-General J. B. Chaney, to whom reference has already been made, on August 8. That was the opening of the first of its three phases, General Chaney thinks, and this particular stage lasted for ten days. (He fixes the end of the phase as the day when the

Germans lost 180 aircraft, which was August 15, so the 'ten' should apparently be 'eight'.) In this phase the German attack, which was carried out by waves of bombers escorted by pursuit 'planes (i.e. fighters), was directed against shipping and aerodromes. It was broken, he states, by the Royal Air Force. His second phase he fixes at September 5 to 15. Here the German aircraft flew at a greater height and tried to 'flank' their targets, but again they were met and defeated by our Air Force. The third phase he regards as beginning on September 27 and as still continuing. Its characteristic was the use of fighters (Messerschmitt 109's and 110's), flying at far greater heights—from 25,000 to 30,000 feet—for bombing by day, and of big bombers at night only. The employment of bombers at night, as practised by the Germans in this phase, can cause much material damage, but, he considers, can never win a war—partly because the German bomb-sight is ill-adapted to night-flying.¹

To the present writer it seems advisable to start from an earlier date than August 8. On what principle can the engagement over Dover on July 29 be excluded from the record of the Battle of Britain? In an interesting article in a weekly paper on 'The Air Assault on Britain',² Mr. Peter Masfield takes July 8 as the opening of the first stage of the battle and August 11 as that on which the main assault began. His third stage begins on August 25, the

¹ Major-General Chaney's statement to the Press was reported fully in *The Times* and the *Daily Telegraph* of Dec. 5, 1940. He had recently returned to America after serving for a month as official observer in Britain.

² *The Sphere*, November 9, 1940.

fourth on September 8, the fifth on September 22, and the sixth on October 6. These are stages of the daylight operations. For the night attacks he recognises three different stages, beginning on July 3, August 24 and September 7, respectively.

The Landmark of June 18

It is really a matter of individual appreciation and judgment, but the writer would go back to an earlier date than Mr. Masfield's for the start of the Battle of Britain. It was on June 18, as he sees the whole story, that the offensive against this island started.¹ An even earlier date than that might indeed be chosen. On the night of May 9, incendiary and high explosive bombs—some forty-four in all—were dropped in a wood near Canterbury; no one was injured and it was probably a case of jettison of load by an aircraft which was in difficulties. Bombs were dropped again on two places in south-east England in the night of May 21, and in the night of May 25 more were dropped in the North Riding of Yorkshire and in East Anglia, some persons being injured on this occasion.² Bombs were dropped in Norfolk in the night of June 2 and in Sussex in that of June 3; in Lincolnshire on June 5, two people

¹ June 18 is also taken as the start of the Battle of Britain by Ronald Walker in his *Flight to Victory* (Penguin Special), p. 98—a book which the present writer had not had the advantage of reading until the present book was finished.

² They were not the first victims of German air action in this country. In the night of April 30 a mine-laying Heinkel bomber came down on Clacton in Essex, after being damaged by anti-aircraft fire, and exploded, killing two people and injuring 156 others.

being injured; and in east Suffolk in the night of June 7, when a German bomber crashed in that county. All these instances occurred while the Battle of France was in progress and they can be regarded as 'strays' or diversions from that battle rather than as incidents of the Battle of Britain. The latter did not begin, as a substantive series of operations, until the other had ended.

The Main Attack Begins

Major-General Chaney's choice of August 8 as the date of the main attack on Britain seems to be preferable to Mr. Masfield's date, August 11. The latter was the date upon which a strong attack was made on shipping off the south coast and on Portland and Weymouth. Some 400 enemy aircraft were engaged on that day. A similar number had been engaged, however, on August 8, when there were a heavy air attack on shipping in the Channel and a big air battle, sixty enemy aircraft being destroyed. On August 11, sixty-five were shot down, five of them by our warships' guns. The Battle of Britain was, as already stated, a series of battles in the air and August 8 was the first of them in which more than fifty enemy aircraft were destroyed over or round our coasts.

The Threat of Invasion

There were, of course, other operations, or abortive attempts of operations, in the Battle of Britain, and consideration of these might lead to the fixing of different stages from those suggested above.

One might have regard, for instance, to the intensification of the submarine warfare in the late autumn as marking the opening of the next critical period of the whole Battle. So, too, attention might be paid to what may have been the ultimate purpose behind the massed air attacks in August and September, namely, the creation of conditions favourable to the landing of a German army in this country. There is undoubtedly a good deal of evidence to support the view that an invasion was planned for mid-September, and this may have been only the postponed date for an attempt which was originally to have been made in mid-August. For whichever time it was fixed, the intended invasion was prevented from materialising by the blows which the Royal Air Force struck at the 'invasion ports' in Holland, Belgium and France. Further reference is made to this aspect of the Battle of Britain in Chapter IV. It is mentioned here only because it serves to show the primary importance of August 15 and September 15 not only as the dates of two signal defeats for the *Luftwaffe* but as marking, approximately, the shipwreck of plans much more far-reaching than those which were translated into action.

Our Earliest Raids into Germany

It is necessary to be clear upon one point, for there is a good deal of misconception in regard to it. We began the regular raiding of the interior of Germany before Germany began that of the interior of Britain, but there was a vast difference between our methods and the Germans'. Our raids were

directed against military objectives, the Germans' were not, or, if nominally so directed, were so carried out, either deliberately or through carelessness, that they were in effect attacks upon the civil population. Our aircraft of the Advanced Air Striking Force in France attacked lines of communications in *Germany* on May 14, with a view to easing the pressure upon our own and the French armies. In the night of May 17 we bombed petrol storage tanks at Hamburg and Bremen, and repeated the operation on the following night, throwing in an attack at Hanover that night as a make-weight. According to the official German News Agency (May 18), twenty-nine civilians were killed and fifty-one injured in Hamburg in the first of these raids, and eleven killed and sixty-three injured in Bremen. The News Agency added that the raid of May 17 was the seventy-second to be made on German territory since May 10. A charge that we were deliberately bombing civilians was met by a prompt denial from our Foreign Office, on May 19: only military objectives, it was emphasised, were attacked. Thenceforward our nightly raids into Germany were almost continuous. Roads, railways, junctions, marshalling yards in the Ruhr and the Rhineland were attacked repeatedly, and oil storage tanks and refining plants were bombed from time to time. The Germans for their part made some raids into the interior of Great Britain towards the end of May and during the first half of June, but the attacks were spasmodic and rather half-hearted. They caused little damage.

The German Raids in June

Then, on June 18, came the first serious air attack upon this country. About a hundred German aircraft crossed our coasts on that night and dropped bombs in a number of places in eastern and south-eastern England. The casualties were twelve civilians killed and thirty injured, but the raiders paid dearly for such small measure of success as they achieved. Seven of the German bombers were shot down, in Norfolk and Cambridgeshire and off the coasts of Suffolk and Kent. Next night there was another fairly large raid and eight civilians were killed and sixty injured; three German bombers were shot down in this night. Five more were destroyed in the night of June 25, and in this early period it seemed, indeed, that there was a prospect of our being able to inflict such losses on them even in darkness that—as in 1918—night-raiding would be made unprofitable. In general, the casualties suffered by the civil population were not heavy. In the four weeks which began on June 18 they were 336 civilians killed and 476 seriously injured, while the figures for the month of July were 258 and 321 respectively. A reduction in the casualty rate was thus indicated, but it was soon to be found to be a misleading indication. In July the Germans lost 146 aircraft in their raids—raids mainly carried out by Heinkel 111 and Dornier 17 and 215 bombers, with crews of five, four and five, respectively—and their losses in trained airmen must have been substantially in excess of the number of people killed in this country.

The Raids of July

In July the enemy attacks were largely concentrated on our ports and coastal shipping, but inland objectives were not entirely neglected. On July 4 a fairly heavy attack was made on Portland, where a small auxiliary vessel was hit and set on fire, a tug and a lighter sunk, and some buildings damaged; eleven civilians were killed. Then, in the daylight raids, the enemy's losses began to mount. On July 10 fourteen German aircraft were destroyed and twenty-three others severely damaged, and on the following day twenty-two were shot down, a number of others being damaged. A new record was set up on July 25, when twenty-eight enemy machines were destroyed around our coasts at a cost of five of our own machines and only three pilots. Then, on July 29, came the big raid on Dover harbour and an air battle in which twenty-one German aircraft were destroyed for the loss of a single British fighter. The German version of the affair was that they lost three aircraft and we fifteen and that four ships in the harbour were so badly damaged that they could be regarded as lost. Actually, the engagement was a disastrous failure for the *Luftwaffe*.

The Intensified Attacks in August

In an interview with Karl von Weygand, the American journalist, on July 28, Field Marshal Göring stated that the raids so far conducted against Britain were only 'armed reconnaissances' and that he was awaiting Herr Hitler's order to attack England seriously. In August the weight of the

German attack did in fact increase, but that month was an even more unhappy one for the German air force than July. The air battle over the Channel on August 8 was a still more signal defeat for the *Luftwaffe* than that near Dover had been. On August 8 about 400 German aircraft, largely dive-bombers with escorts of Messerschmitt fighters, attempted repeatedly to attack convoys in the narrow waters and were engaged by our Hurricanes and Spitfires in a series of encounters which continued from nine o'clock in the morning until five in the evening. The fighting was much fiercer than on July 29. We lost nineteen of our fighters and seventeen pilots, but we destroyed thirty-six of the German fighters as well as twenty-four bombers: a total loss for the day of sixty enemy aircraft. As usual, the respective losses were turned about in the German official report; ten German machines, it was stated, were missing, while the British losses were forty-six aircraft, including thirty-three Spitfires. Why a similar loss of Hurricanes, which were also engaged, was not claimed Dr. Goebbels presumably knew. The German claim was pure phantasy.

Three days later the *Luftwaffe* transferred its attention to a point farther west. It made a mass attack on Portland and Weymouth and a number of smaller attacks at other points, and again it was roses all the way for Germany—according to the German report. The wharves and equipment of Portland harbour, the repair shops, storage tanks, and the dam connecting the latter with the mainland were all wrecked. Ships in the harbour were 'almost destroyed', and at Weymouth a merchant vessel of

3000 tons was sunk. Such was the Nazi propagandists' valiant effort. Actually, the sum total of the damage was some interruption of communications, an oil tank set on fire and some minor damage to one of H.M. ships by splinters. No ship was sunk, none was 'almost destroyed', none was even disabled. The port carried on, and as an attack on the naval base the raid was a costly failure. The Germans lost sixty-five aircraft, five of them to the guns of our warships, out of the 400 engaged all round our south coast, from Dover to the west on that day. Our loss on August 11 was fairly heavy—twenty-six fighters and twenty-four pilots; but the credit balance was still heavily on our side.

Portland and Weymouth having thus been satisfactorily disposed of, it was Portsmouth's turn next day (August 12). On that day again about 400 enemy aircraft raided our coast-line from the Thames Estuary to the Isle of Wight. At Portsmouth bombs fell on the outskirts of the Dockyard area, set fire to a store, caused minor damage to a jetty, and sank two small harbour service craft. In the town of Portsmouth the railway station was hit and some buildings, including a brewery, were set on fire. A number of casualties occurred among the civil population. Again, the German account of the losses of aircraft was a travesty of the facts. It was stated that seventy-one British machines were destroyed, including forty-three at Portsmouth, and—a truly remarkable flight of fancy—that *no* German machines were lost. Our fighters shot down fifty-five German aircraft that day and our anti-aircraft gunners destroyed

seven more: a total of sixty-two. We lost thirteen fighters and twelve pilots.

The Great German Defeat of August 15

Attacks on aerodromes had accompanied the raids of August 12 and on the following days some more air bases were attacked, while the ports continued also to receive attention. Southampton was raided on both August 13 and 14, when the *Luftwaffe* lost seventy-eight and thirty-one aircraft, respectively, in the various air battles that took place over and around our coasts; we lost seventeen fighters in two days, but the pilots of ten were saved. The Germans claimed 132 British aircraft destroyed on August 13 alone. All previous German losses were thrown completely into the shade by those incurred on August 15, which was a day of dark disaster for the German air force. The attacks on that day were directed mainly against aerodromes in the south-east of England, some harbours also being visited, and more than 1000 German aircraft in all were engaged, 600 of these being bombers. 180 enemy machines were destroyed, 158 by our fighters and twenty-two by the ground defences. We lost thirty-four fighters but seventeen of the pilots in them were saved. It was the most shattering defeat ever suffered by the German air force, or, indeed, by any air force in the history of air warfare; but a still heavier one was to follow a month later, as the next chapter will show.

Göring, no doubt, had hoped that his serried phalanx of bombers and fighters would be able by

sheer weight to smash a way through our defences in the air and on the ground. The British air force was to be crushed, its bases wrecked, the sky of the south-eastern corner of England cleared for the future passage, at will, of the conquering *Luftwaffe*: perhaps as a prelude to the invasion which may have been planned for mid-August. The huge formations which flew over our coasts were to exploit the Douhet theory of the possibility and effectiveness of the mass-attack in the air. Alas for Douhet! The result was completely to debunk his famous theory. What actually happened was that a much smaller but technically and professionally superior force of fighters shot the big formations to bits. Our Spitfires and Hurricanes, mainly attacking in line astern, hurled themselves upon the German masses, broke them up, harried them and hunted them until they had no semblance of formation left, and sent the survivors scuttling back to their bases. The screens of protecting fighters were powerless to save the bombers from our interceptors' onslaught. Where they intervened, they, too, were shot down. In one particular encounter on August 15 a West of England Hurricane squadron destroyed no less than fourteen Messerschmitt 110's, as well as five bombers, and lost only a single pilot. Another Hurricane squadron destroyed ten out of a formation of sixteen dive-bombers.

The Heavy German Losses in August

The terrible losses inflicted upon the *Luftwaffe* on August 15 would have broken the heart of any air

force less powerful, numerically, and less drastically dragooned into machine-like submission to authority than that of Nazi Germany. As it was, the massed attacks continued. On August 16 seventy-five German aircraft were destroyed. Two days later, on August 18, 152 were shot down. On that day 600 enemy machines, including 400 bombers, came over our coasts in three massed raids, and the ratio of loss, representing twenty-five per cent. of the raiders, was the highest yet sustained in any of the attacks upon this country. It was in fact a staggering rate of wastage. But the German game was a big one and the stakes were high. The *Luftwaffe* was feeling its way towards London. Gradually, at the cost of heavy losses, it succeeded in reaching its goal. On the night of August 22, bombs were dropped on the outskirts of the capital, a cinema and other buildings being damaged. Then, on the night of August 24, bombs fell in central London—the first of many that were to come. London's first casualties occurred on that night, which succeeded a day of hard fighting over Kent. The enemy's attacks during the day had been directed mainly against aerodromes in Kent and on the outskirts of London, and an Air Ministry Bulletin admitted that a good deal of damage had been caused to Manston aerodrome, near Ramsgate. Portsmouth and Dover were attacked on the same day, and the total enemy loss for the day was fifty aircraft; fifty-five more were destroyed on the next day, August 25.

The First Raid on Berlin

August 25 is another landmark. On that night the Royal Air Force first carried the war to Berlin. It is necessary to emphasise that fact. A German High Command *communiqué* of June 22 alleged that the outskirts of Berlin were raided on the night of June 21. There was in fact no such raid. Not a bomb was dropped in the Berlin area until the night of August 25: and central London had been raided on the preceding night, while London's outskirts had been attacked before that. The raid on Berlin followed hot-foot upon that on London, but it was not, officially, a reprisal. An inspired statement published in the principal newspapers on August 27 pointed out the raid on Berlin was directed against military objectives in the outskirts of the German capital and that these objectives would have been attacked even if the raid on London had not occurred. The effect of that raid, however, was to make it necessary to consider whether the objectives in Berlin should be accorded a higher priority, as compared with other possible targets, than that which would otherwise have been assigned to them. In other words, and without diplomatic periphrasis, we should not have begun to bomb Berlin, even though there were perfectly legitimate targets there, if the Germans had not set the pace by bombing London. The difference between the careful and selective bombing carried out by the Royal Air Force and the indiscriminate bombing of the *Luftwaffe* was emphasised in the statement.

The Closing Days of August

During August 1075 persons were killed in this country and 1261 seriously injured by enemy air action. The raids continued on a fairly heavy scale up to the end of the month; repeated attempts to pierce our defences and to cripple the Royal Air Force by striking at its aerodromes were foiled, and in the four closing days of the month, August 28 to 31, 189 German aircraft were destroyed. We lost on these four days eighty-five fighters, forty pilots and three air gunners; the last represented, it is to be presumed, the loss of three Defiants. Berlin, meanwhile, experienced its heaviest attack, up to that date, on the night of August 29. It was raided again on the following night, and on the night of September 1 Munich was visited by our bombers for the first time: a worse sacrilege, perhaps, in Herr Hitler's eyes than the raids on Berlin.

The Early September Encounters

The attacks on our own aerodromes in south-east England continued in the opening days of September and heavy losses were again inflicted on the *Luftwaffe*; they amounted, for the six days, September 1 to 6, to 244 aircraft; our losses in the same period were 106 fighters, but the pilots of sixty-four of these were saved. The outskirts of London were reached more than once in these raids. In the early hours of the night of September 4, the gunfire in one part of the outer London defences was almost continuous. The Royal Air Force stations were, however, the main objectives. The recurrent attacks

THE BATTLE OF BRITAIN OPENS

culminated in a series of fierce battles on September 7, when 103 enemy machines were destroyed, for a loss of twenty-two of our fighters, the pilots of nine of which were saved. On the evening of that fateful day the enemy succeeded at last in smashing their way through the defences and starting fires in the London area. What happened then is recorded in the following chapter.

CHAPTER II

The Blitzkrieg Hits London

London becomes a Storm-centre

We who live in or around London are inclined to date the *Blitzkrieg* from September 7, when the sustained attacks upon London began. It had begun for other cities long before. Bristol, Liverpool, Coventry and Birmingham had had some months of it already. Attacks on these towns, as well as on a number of less important places in different parts of the country, had been referred to repeatedly in the German reports in July and August. They had not been subjected, however, to such a dose of intensive and continuous raiding as London was now to experience.

Only a few of the 2336 people who were killed or seriously injured in the air raids upon this country during August were Londoners. The toll for September was far to exceed that list of casualties and the chief sufferers were now to be the dwellers in the capital. Only the inhabitants of the suburbs and outskirts had as yet felt the impact of the German strokes. A suburban railway station had been hit on August 16 and houses and shops had been damaged in the district. Tilbury and Northfleet had been raided on the same night. Croydon had suffered the

day before and was again to be in the fray on August 18, when, too, Londoners heard the anti-aircraft guns round their city in action for the first time. The memory of a big German bomber blazing in a field near the writer's home on that day will always remain vividly in his mind. The London suburbs were again attacked on the night of August 22.

The Attack of September 7

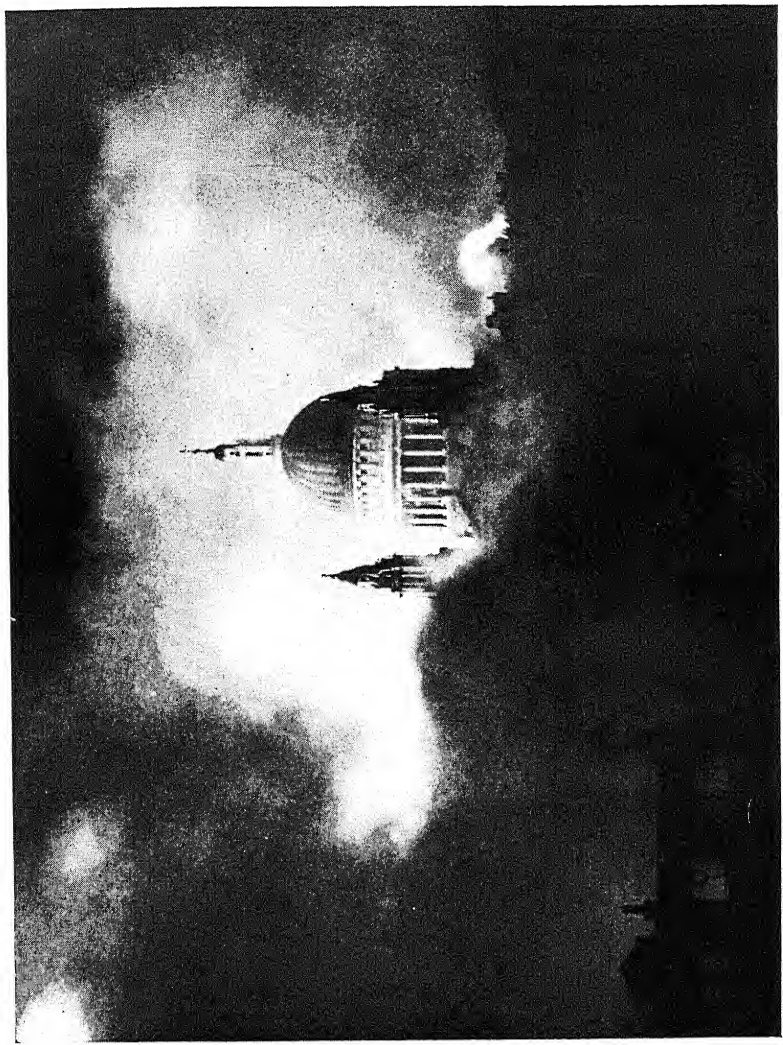
It was on September 7, however, that London's ordeal really began. On that day, between 4.30 and 6 p.m. a heavy attack, the third of the day, was launched by large bombing formations, escorted by fighters, upon south-east England, and a number of enemy aircraft succeeded in penetrating to the eastern districts of the capital. Fires were started when industrial targets in this area were hit, and damage was done to lighting, communications and other public services. Heavy attacks were made also upon the docks. 'London', said the bulletin of the Air Ministry News Service on September 7, 'was ringed with air battles for over an hour this evening. From aerodromes on every side Spitfires and Hurricanes flew to challenge the first big Nazi raid on London and the docks.' 'Enemy attacks', said the *communiqué* issued by the Air Ministry and Ministry of Home Security on the same evening, 'have been repeated in the London area to-night, and it is evident that the scale of his attacks on London has been the largest yet attempted. Our defences have actively engaged the enemy at all points, and the civil defence services are responding admirably to all the calls that are be-

ing made upon them.' How often were we to hear that last tribute paid in the months to come!

Those who live in the defence zone of London and watched the air battles on that Saturday evening are unlikely ever to forget the scene when, in the gathering dusk, a red glow appeared in the clouds over eastern London and it became evident that the enemy had at last succeeded in penetrating our defences. What would happen when darkness fell and that glow in the sky served as a beacon to other German bombers on their way to the city? The thing which some of us had feared had happened. Our fighters and anti-aircraft gunners had done splendidly but they had been unable to stem the tide of assault. The technique of the *overflowing raid* which many had foreseen had been put into practice. The onslaught had lapped round the fringes of the defence.

The Promises made by Ministers

To one onlooker, at any rate, there came back into memory two other scenes of recent years. In one, Mr. Baldwin is standing at the table in the House of Commons—it was on November 28, 1934—and declaring that 'His Majesty's Government are determined in no conditions to accept any position of inferiority' to Germany in the air. The House accepted and applauded that assurance—an assurance of a one-power standard, or 'parity' in the air. The other scene is in the House of Lords; Lord Swinton, Secretary of State for Air, is standing at the table, as Mr. Baldwin had stood in the other House, and is explaining that 'parity is a bad term'. (The date is



THE MAJESTY OF THE DOME

St. Paul's seen through the fires caused by the thousands of incendiaries dropped on the City of London on 29 December, 1940

Associated Newspapers Ltd.

May 12, 1938, three and a half years later.) What we have to be satisfied with, he goes on, is that in reply to an attack we have 'the active defence, fighter, anti-aircraft defence, which would be sufficient to meet that attack, and the size of it must be conditioned objectively by the size of the force which might be brought against it.' For 'parity' he proposed to substitute 'wholly adequate for our necessities'.

So parity received its dismissal and another standard was substituted for it. It was on the whole a better standard and would have served—if only it had been maintained. When the war began Germany's first-line strength in the air was at least double that of Britain and France combined. We had nothing even remotely approaching a one-power standard, that is, parity, in the air; and quite certainly we had not an air force 'wholly adequate for our necessities'. If we had, we should have been able, with our interceptors, to hold the attack which was launched upon us in the Thames Estuary on that evening of September 7. Our defence in the air was wholly *inadequate* for our necessities. Our fighter squadrons did all that human heroism could do; they were overrun and brushed aside by overwhelming numbers. 'They have been worked too hard—much too hard', said Sir Archibald Sinclair at Sheffield on November 6, 'for there were far too few of them.'

The Air Battles round London

The air battles waged by our Hurricane and Spitfire pilots on that day above the Thames Estuary and

eastern London were epics of splendid endeavour. That they failed to break the onslaught was not our airmen's fault. 'There were oceans of them,' said a Hurricane squadron leader. 'It was impossible to miss those one aimed at.' Great formations of Dornier and Heinkel bombers, escorted by Messerschmitt fighters, came on in apparently endless waves, against which our fighter pilots flung themselves again and again. Our anti-aircraft gunners, too, did all but the impossible. They shot down twenty-two German aircraft that day and our fighters destroyed eighty-one—a total of 103. We lost twenty-two fighter machines but only fourteen pilots. So the defence was pierced, the dockside warehouses were set on fire, and London itself became an easy target for the massed raid that followed in the same night.

The bombing, said the *communiqué* issued next morning by the Air Ministry and Ministry of Home Security, 'appeared to be indiscriminate'. That was putting the matter mildly. 'Damage', the *communiqué* went on, 'was severe, but judged against the background of the war is not serious. The major weight of the enemy's offensive was concentrated on both banks of the Thames, east of the city, especially on the riverside, where three extensive fires and a number of others were caused. Much damage was done and a number of persons were rendered temporarily homeless but were successfully removed from the danger area, and immediate steps were taken to provide them with food and shelter.' A utility plant, docks of the Port of London Authority, warehouses

and barges, it was added, were damaged, as were also two schools in South London; a fire was caused in central London and houses were demolished in various districts. A large fire was also caused in an oil installation on the lower Thames. The provisional estimate of casualties was about 400 people killed and 1300 to 1400 seriously injured. A day or two later it was announced that the actual figures were 306 killed and 1337 seriously injured.

The Raids of September 8-14

The following (Sunday) night, September 8, witnessed another heavy attack on London. Bombs were dropped in widespread areas and fires were again started, mainly in the Thames-side districts; some also raged for a time in other parts of London. Private houses and public and mercantile buildings suffered considerably. 'London', said the *communiqué* issued on September 9 by the Air Ministry and Ministry of Home Security, 'has once more been the main objective of the enemy, and its citizens have met the blind savagery of these latest night attacks with admirable courage and resource.' Some 286 people were killed and approximately 1400 seriously injured in the raids on the night of September 8. The attack was resumed on the following evening, Monday, September 9, when about 350 aircraft were launched against south-east England and the London area in successive waves between 5 and 6 p.m. Many of the raiders were driven back by our fighters before they could reach London, but some came through and caused more damage on that night.

'The enemy', said the *communiqué* of September 10, 'has now thrown off all pretence of confining himself to military targets . . . Bombs have been scattered at random over London without any distinction of objective. They have fallen in the city and caused fires in the immediate vicinity of St. Paul's Cathedral and the Guildhall; they have fallen on a large maternity hospital which was twice attacked, a number of casualties being caused; they have fallen on a poor law institution for the aged, on an L.C.C. housing estate, and on a large number of workmen's cottages, especially in the East End of London, which were heavily and repeatedly attacked; and they have also fallen in the residential districts of west and north London.' It was subsequently announced that the number of casualties in the raids on the night of September 9 were about 400 killed and 1400 injured. 'The majority of the casualties occurred', it was officially stated, 'when an elementary school in the East End of London, which was affording temporary shelter to families whose homes had been destroyed, was hit and collapsed.'

The anti-aircraft barrage round London was made considerably more intense after the first four nights. On the night of September 11 the raiders were met by a ground defence which seemed for a time to stagger them. They continued, nevertheless, to come over the capital, and the great height at which they flew made it exceedingly difficult for the searchlight crews and gunners to hold and hit them. They were consequently able to drop their bombs at random, which was apparently their

object; no attempt to hit military objectives was made, or, if made, it was certainly not effective. The casualties, though tending to decrease as more precautions for safety were taken, were heavy. In the whole country, Mr. Churchill stated in the House of Commons on September 17, they amounted to 2000 civilians killed and 8000 wounded in the first half of September, three-fourths of these losses being in London. As 1054 German aircraft were destroyed in September in the raids against this country the loss of trained airmen cannot have been much less than 3000. One day, in particular, contributed a generous quota to this total.

The Great Attack of September 15

On September 15 some 350 to 400 German aircraft were despatched against London and south-east England in two waves, the first at about 11.30 a.m., the second soon after 2 p.m. In the afternoon, two smaller attacks were made in the Portsmouth and Southampton areas. 'In every case,' said an Air Ministry Bulletin (September 15), 'fighter patrols were ready to meet the enemy. The two main attacks on the London area received such a gruelling as never before. Spitfire and Hurricane squadrons, many of them veterans in London defence, fought them over the Kent coast as they came in, fought them over Maidstone and Canterbury, above the Medway and Thames Estuary. Many they turned away. The survivors they fought, again over London itself, squadron after squadron of fighters flying fresh into action. Finally, they chased them back

again and out over the Channel whence they came. A squadron of Hurricanes which destroyed nine of the enemy, began their fight over London and ended up over the cliffs at Hastings. Another chased a group of bombers from the Thames at Hammer-smith to Beachy Head, shooting down five of their number on the way.' The anti-aircraft gunners claimed their victims, too, shooting down seven enemy aircraft. The fighters destroyed 178 (125 bombers and fifty-three fighters) and the enemy's total loss for the day was 185 machines, officially confirmed. Actually, there is reason to believe that a further forty-seven machines were destroyed.

'Yesterday', said Mr. Churchill next day (September 16), in a congratulatory message to the Fighter Command, then still commanded by Air Chief Marshal Sir Hugh Dowding, 'eclipsed all previous records of the Fighter Command. Aided by squadrons of their Czech and Polish comrades, using only a small proportion of their total strength, and under cloud conditions of some difficulty, they cut to rags and tatters three separate waves of murderous assault upon the civil population of their native land. . . . These results exceeded all expectations and give just and sober confidence in the approaching struggle.' They were achieved, as the message also stated, for a loss of only twenty-five British machines and only twelve pilots.

Apart from the attack in the west, there were really two separate battles on September 15. The first and smaller one was fought out before mid-day. The other and larger one followed more than two

hours later. The raiders came in groups of nine, arranged three by three, 'like a sergeant's stripes,' each group of nine bombers being interspersed by nine Messerschmitt 110's, with arrow heads of Messerschmitt 109's above them, up to heights of 35,000 feet. There were Messerschmitts of many colours, yellow-nosed, white, orange and red-nosed. The Hurricanes and Spitfires took them all on, indifferently. They drove into the middle of the formations, made them 'loosen up', scattered them to the east and to the south. The fighting was mainly at heights between 15,000 and 30,000 feet. It took place in clear sunshine, at least 4000 feet above the top of a thick cloud layer. Many of our squadrons had double-figure 'bags' on that day. They almost wearied of shooting down Dorniers and Heinkels and Messerschmitts.

Mr. Ingersoll's Sensational Story

That day, September 15, will be one 'marked evermore with white' in the annals of the Royal Air Force. Never in the history of war has such a victory been won in the air. The day has another significance, however, if we are to accept the view put forward by a well-known American commentator who was in England at the time. 'In the month of September, between Saturday, September 7, and Sunday, September 15, Hitler took London and didn't know it.' So wrote Mr. Ralph Ingersoll, editor of an American paper, in one of a series of articles which were reproduced in a London newspaper.¹ 'Göring's

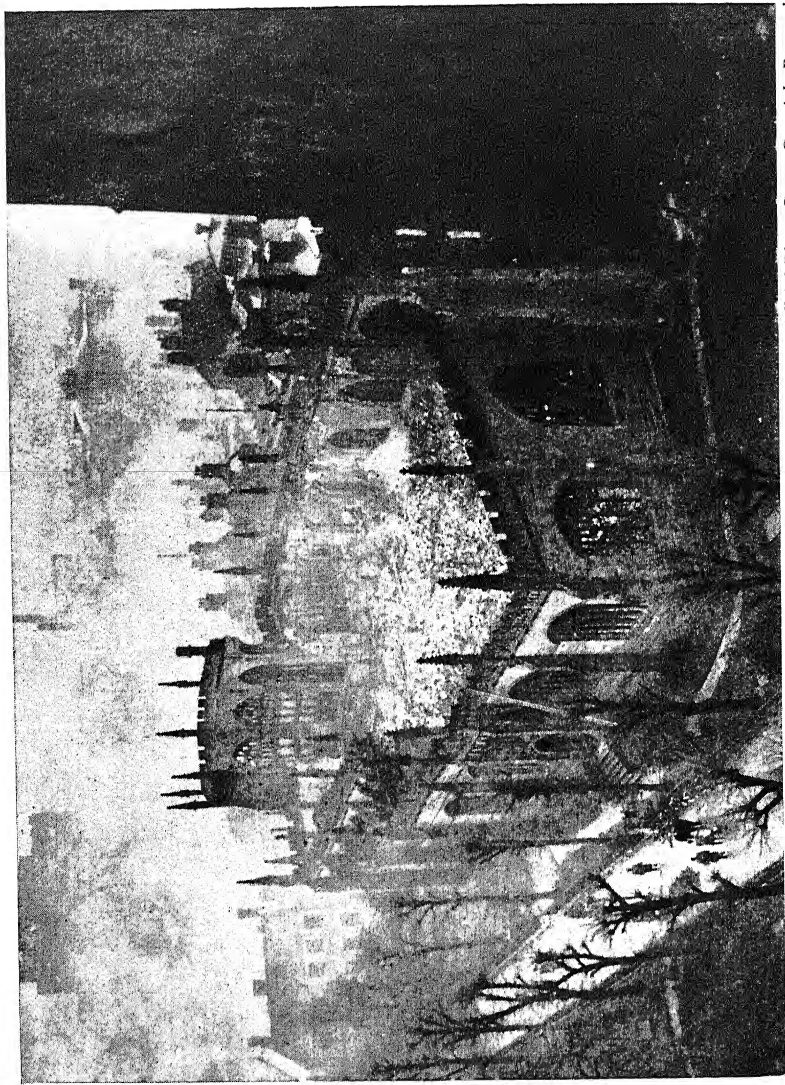
¹ The article here quoted will be found in the *Daily Express*, November 25, 1940.

Luftwaffe took it for him in an almost continuous succession of mass raids which for all practical purposes had the city on fire, its transportation disrupted, its streets full of glass and bricks, its water system practically out, its unprepared civilian population holding on despite almost continuous and uninterrupted terror, with only their almost unbelievable courage and faith in themselves to maintain them—because all through that week no one who was there had any reason whatever to suppose that they and their city would not be bombed and burned out of existence. On the eighth day of the ordeal—during the afternoon of Sunday, September 15—Adolf Hitler met his first defeat in eight years.’

‘The battle that was fought in the air over London between September 7 and 15’, Mr. Ingersoll continued, ‘may go down in history as a battle as important as Waterloo or Gettysburg. Like Gettysburg, it may be recorded as a battle that the loser had won and didn’t know it. It is too late now. . . . What no one will ever know now, thank God, is whether even the English could have taken it for longer than those eight days. Most of the most observant, informed and intelligent people with whom I talked don’t believe that they could have.’

The Sober Facts.

Many of us who witnessed the onslaught of those eight days will certainly not be prepared to subscribe to Mr. Ingersoll’s view that London could not have ‘taken it’ if it had been continued beyond September 15, or to agree that his description of London



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VANDALISM UNASHAMED

Coventry Cathedral after the raid upon the city on 14 November, 1940

at the time is an accurate one. It is an overdrawn picture which he paints. One could drive through street after street of London a day or two after September 15 and find no evidence whatever of damage. Undoubtedly some districts suffered severely but the destruction was localised and, in relation to the huge bulk of London, almost a pin-prick. That is not the present writer's view alone.

In a letter addressed to a London newspaper,¹ Mr W. T. Cranfield, London correspondent of the *Toronto Evening Telegram*, challenged the truth of Mr. Ingersoll's description of the effect of the *Blitzkrieg* upon London, and he spoke for other Empire journalists as well as for himself. Other newsmen who visited both central London and the suburbs were unanimous, he stated, in the view that Mr. Ingersoll's description of streets full of rubble, glass and bricks, without water, with traffic at a standstill, with fires raging, was false then and was still false at the end of November, after eleven weeks of bombing. A few days later, another letter was published² from a firm of London solicitors, who stated that during the week in question the tornado of devastation which Mr. Ingersoll had described did not prevent their staff of over a dozen employees from travelling each day between their office and their homes in the suburbs, and that clients were interviewed, letters received and despatched, and telephone calls received and made *via* London exchanges, throughout the period when, if Mr. Ingersoll's description were

¹ *Daily Telegraph*, November 28, 1940.

² *Daily Telegraph*, December 2, 1940.

accurate, it would have been utterly impossible to carry on any business. To this testimony must be added that of Mr. Ernest Brown, Secretary of State for Scotland, who in a speech at Glasgow on December 6 repudiated the statement that between September 7 and 15 'Hitler took London and didn't know it.' The statement was in fact 'fantastic nonsense' according to a 'high official of the R.A.F.' quoted by the aeronautical correspondent of *The Times* on January 1, 1941. Hitler was, in fact, nowhere near taking London. Mr. Ingersoll's argument that if Hitler had been prepared to go on losing 200 aeroplanes a day for five days longer London would have been bombed and burned out of existence, that the Royal Air Force 'were weakening' at the end of the fateful eight days and that they could not have gone on shooting down enemy machines at that rate, is one from which those who know the Air Force must record dissent. As Mr. Churchill said in his congratulatory message of September 16, the strength of the Fighter Command was very far from being fully deployed on September 15.

The Raids of October 15 and Afterwards

It is common ground at any rate that the great victory of the Royal Air Force on that day had a vital influence upon the outcome of the Battle of Britain. London itself was still to have its tribulations. Just a month later, on October 15, it sustained the heaviest attack yet launched upon it at night. According to a German official statement of October 16 a thousand aeroplanes were used in this

attack and nearly a thousand tons of bombs were dropped, hitting the targets 'with remarkable precision'. The last part of this statement was palpably untrue, and there is reason to hold that the figures were also inaccurate. An 'unofficial but reliable source' was quoted in a London journal¹ as the authority for the statement that not more than two hundred and fifty aircraft were employed in the raid and that the weight of bombs dropped did not exceed two hundred and fifty tons. The further German claim that 'on the whole the night was the most terrible for London since the outbreak of war' was certainly incorrect. The raid was not as destructive of life or property as the early raids of September, and much less alarming, because people had become accustomed to the *Blitzkrieg* and the precautions taken to ensure safety were more adequate than at first.

If the German raiders did bomb 'with remarkable precision' they cannot have been aiming at military objectives, for exceedingly few were in fact hit. The damage was confined almost exclusively to retail stores, dwelling houses, hospitals, churches, and other buildings which have no military importance. On November 14, the Ministry of Information issued a list of the targets bombed during the preceding nine weeks. They included, in London, five great hospitals—Great Ormond Street, the London, Queen Mary's, St. Bartholomew's and St. Thomas's; twenty-four churches, including Westminster Abbey, St. Paul's, St. Margaret's (West-

¹ *Daily Telegraph*, October 17, 1940.

minster), St. Martin's-in-the-Fields, and St. Clement Danes; four palaces, including Buckingham Palace, which was attacked on two occasions; and a number of art collections and historic buildings such as the British Museum, the Tate Gallery, the Wallace Collection, Burlington House, the Temple, the Royal Hospital, Chelsea, and Holland House. The list was, in fact, striking evidence of the inability of the Nazis to understand how the opinion of the civilised world would react to their methods of conducting war.

The Attacks on the Provincial Towns

In the first week of intensive bombardment in September the casualties caused by the German raids upon this country numbered 6000; in the last week of October they had diminished to 2000. Up to the end of October 14,000 civilians had been killed and 20,000 seriously injured, three-fourths of these being in London.¹ The rate rose again in mid-November, when the weight of the German attack was shifted from London to some of the large provincial towns. Coventry, Birmingham, Liverpool, Bristol, Southampton and (later) Sheffield became the targets for massed attacks. A new chapter in the 'Battle for Great Britain' had begun, it was announced by the German wireless on December 3. London's staying power, it was admitted, had proved to be great, and it was hoped that morale would be lower in the smaller cities: a hope, it may be added, which was speedily dispelled by the re-

¹ These figures were quoted by Mr. Churchill in the House of Commons on November 5, 1940.

action of those cities to the brutal and indiscriminate assaults made upon them. In explanation of the change of tactics the wireless announcer referred to Britain's 'inadequate air force and utterly inadequate ground defences' and the fact that the British would not know where the next blow would fall. 'They can be absolutely certain that blow after blow is coming. And all the time the *Luftwaffe* is pounding away at London, mercilessly and scientifically.' When all the large provincial cities were shattered, they would be no more use to England, said the announcer, than if they had been actually captured by German troops.

Birmingham and Coventry are centres of the aircraft and aero-engine industry. How far they were from being put out of industrial operation was shown by a broadcast address by Lord Beaverbrook, the Minister for Aircraft Production, on December 17. The output of aircraft and engines had *risen* in each week recently, he stated, and we had now more aircraft of all types than before the attack on Britain began. That there had been some damage to the aircraft factories he did not deny, but it was perfectly evident from his remarks that it had not seriously affected our production.

The heavy attacks on the provincial towns in November did not result in as high a casualty rate as might have been expected. In November 4588 civilians were killed in Great Britain and 6202 injured and detained in hospital, as compared with 6334 killed and 8695 seriously injured in October.

The Raids of December 6 and 29

The fact of the matter is that London was fast 'debunking' the terrors of indiscriminate air bombardment—which is not to imply that there are no terrors in it; there are, but they can be endured by staunch men and women, and London was too huge to be wounded to death. The Germans decided, therefore, to try those terrors against smaller victims, hoping that the results might be more impressive.¹ They did not cease their attacks on London, however. The capital had another heavy raid on December 8, but the damage and casualties caused were less than in the earlier raids. This particular raid was staged, there is reason to believe, as a propagandist retort to our bombers' attacks on a great number of enemy aerodromes on the night of December 6. The aerodromes then attacked were those from which the German bombers set out on their raids against this country, and the effect of our operations on that night was seriously to disorganise the machinery of the German air offensive. To hide the fact that our widespread attacks had been so effective a supreme effort was made two nights later to persuade the world that Germany could still launch a large-scale assault in the air, and for this

¹ An interesting sidelight upon this question is thrown in an article contributed by Capt. Cyril Falls to the *Illustrated London News* of December 14, 1940. He refers to the shifting of the attack from London to the provincial towns and then goes on: 'I can declare upon my honour that since the new phase began a considerable number of people of all classes and types have said to me: "*I wish they'd go on bombing us. We can stand it, and it does less harm here than in some other places.*"' Assuredly London can 'take it'.

purpose, on December 8, long-range bombers took off from aerodromes in Germany which had not been visited by our aircraft on the night of December 6, as well as from the air bases normally used for the raids on this country so far as the latter had not been put temporarily out of action.

Another heavy attack was made on London in the night of Sunday, December 29. It was directed mainly against the square mile of the City proper and was notable for the enormous number of incendiary bombs dropped. Many fires were started and a number of famous and historic buildings, including the Guildhall and eight Wren churches, were destroyed or damaged. The loss of life was not, however, as heavy as in some of the earlier raids, and although a number of our towns suffered severely in December, notably Southampton, Bristol, Portsmouth, Birmingham, Sheffield, Liverpool and Manchester, the casualty list for the month was less than in November. During December 3793 civilians were killed and 5044 injured and detained in hospital, as compared with the November figures of 4588 and 6202 respectively.

London's Nerve Unshaken

The buildings of London, as of others of our cities, have been shattered and no doubt will be shattered again, but the resolution and courage of the citizens remain unshaken and unbreakable. That has been the heartening lesson of the Battle of Britain in so far as it has been waged against the great centres of population. The German resort to *Schrecklichkeit* has

definitely failed. It has caused immense loss and suffering to thousands of people, but it has not achieved the purpose which the German High Command undoubtedly had in view. The purpose was to stun our people into submission. Copious forecasts could be quoted to the effect that sustained attack from the air on a great scale would suffice to compel the country which was its victim to capitulate even if that country's army and fleet still remained unbeaten. 'Direct action' in the air has been proved not to have the decisive effect which was claimed for it. The determination of our people to fight on has not been shaken. On the contrary, it has been stiffened. The fact is evident from the result of the voting in the House of Commons on December 5 upon the Independent Labour Party's motion advocating the calling of a conference to consider peace proposals. The motion was defeated by 341 votes to 4. Our great democracy would have nothing to do with appeasement.

The magnitude of the part played by the Air Force and of the anti-aircraft artillery in the defence of London should not be allowed to overshadow the contribution made to the success of the resistance by the passive defence and also by the great mass of the civilian population. It is a commonplace that to-day we are all in the front line. The era of absenteeism in war-waging is dead and gone. Not only the men of the fire services, the demolition and rescue parties, the police and the first-aid squads, but the whole of our urban population have helped to defeat the attempt to bludgeon us into submission. London's

triumph has been a triumph of London's common folk.¹ The great city has emerged from the struggle with head bloody but unbowed. Never in all its long history has its glory been greater than it is to-day; and London is but the type of many a great city of our land which has come undaunted through the ordeal by battle.

¹ How London reacted to the bombing is brilliantly described by Negley Farson in his *Bomber's Moon*.

CHAPTER III

The Few Who Saved the Many

The dead folk praise the live men
That fling to death its lie;
At cloistral window, comforted
With pageantries of sky,
The idle saints sit lauding God
Seeing the pennons fly
As the paladins, the young men,
Swing proudly past to die.

A Song of the Young and the Old

JAMES MACKERETH

The New Riders to the Sea

The paladins, the young men, the 'few' of whom Mr. Churchill spoke, the few to whom so much is owed by so many: the airmen who met and mastered the Nazi onslaught in the air: men of many nations but mainly of British stock: the men who man the fighter, bomber and coastal squadrons of the Royal Air Force. We who live on the perimeter of London think most of the fighters, but the crews of the bomber and reconnaissance machines are paladins, too. We see the fighters, the Spitfires and Hurricanes, winging their way above our heads, nine, ten, a dozen or more of them, perhaps several squadrons, flying thousands of feet high, making for the coast before the sirens sound, returning when the 'Raiders

Past' has followed. We see, at times, the white vapour in the sky when air battles are taking place at great altitudes, or when our fighters are chasing the enemy fighters back to the cliffs of the Channel. Our hearts are thrilled at the sight. Who can do them justice, these young champions of civilisation? Some day, perhaps, a great poet or dramatist will tell their story worthily; the story of this happy band of brothers, of these new and swifter Riders to the Sea.

It is to us, too, the dwellers around London, that what they have done for us all, the many, comes home especially. We know that they have turned back many a raid before it could reach our homes. We can appreciate the truth of what a squadron leader, a Canadian, said in a broadcast to Canada on December 23. He told how a raid was stopped on September 27, when, in his words, 'we slapped down more than a hundred of Göring's *Luftwaffe*.' 'We saw hordes of German bombers and escorting fighters coming in over Kent,' he said. 'As Royal Air Force fighters got stuck in them, you could see them falling away, plunging down with smoke pouring from them. It almost seemed that there was an invisible barrier over a certain part of Kent and that as soon as the bombers reached it large numbers of them suddenly began pouring out smoke and going down. It was an amazing sight and if I hadn't seen it happen I would never have believed it.'

A gallant company they are, these men who have ranged the skies of southern England, and they are gathered from all the quarters of the world. Perhaps nothing is more remarkable in the story of the Battle

of Britain in the air than the part which has been taken in it by men of the countries which the Nazi hordes have overrun. These men, with no homeland of their own left to defend, have brought their brave hearts and their sharp swords to defend this country of ours, the last citadel of freedom in the eastern hemisphere, from the fate which overwhelmed their own. They have fought, and many of them have died, for us. They have paid in full measure for the help which we gave their countries in their need.

The Polish Airmen

Foremost among them, for more than one reason, are the Poles. They are largely the survivors of the gallant Polish air force which was caught unawares and overwhelmed on its aerodromes by the treacherous blow delivered by the *Luftwaffe* on September 1, 1939. They reached Britain by various and devious ways, and their eagerness to avenge their fallen comrades speedily brought them into the air again. Four squadrons have been formed of Polish subjects. Two are fighter and two are bomber units. The fighter squadrons have been particularly successful. They have won a reputation for dare-devil courage and determination even in the company of their comrades in arms in our magnificent Air Force.

Polish Fighters' Successes

They were in action in the summer, but it was in September, 1940, that their quality as wonderful fighters began to impress all who witnessed it. On September 2, they chased a formation of Messer-



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A CELEBRATION

Having gone like a knife through the *Luftwaffe*—the squadron was the first to destroy 100 enemy aircraft while operating from one station—the pilots proceed to treat a Christmas cake similarly

schmitt fighters from Dover to the French coast and beyond it, and shot down two of them, as well as damaging a third. Three days later they destroyed four Messerschmitt fighters, and probably two more, and a Junkers 88 bomber, probably a second as well. Next day (September 6) they destroyed five Messerschmitt fighters and a Dornier bomber, and probably two more Messerschmitts, and on the following day capped that performance by shooting down no less than ten Dorniers, probably twelve, and three Messerschmitts, probably five. Their total bag on the last day (September 7) was thus thirteen, probably seventeen, enemy aircraft, and they made it for the loss of one, only, of their Hurricanes, the pilot of which landed safely by parachute in Essex. The Polish squadron concerned, of eleven pilots, had chased at least forty Dorniers, heavily protected by fighters, all the way down the Thames Estuary, playing havoc with them. It had destroyed twenty-five enemy aircraft in four days by the evening of September 7. That did not satisfy its lust for fight. The same squadron was again in action on September 11 and again it had a day of triumph. Led by its English Flight Lieutenant it met and broke up a formation of about 150 enemy aircraft which was making for London at a height of 18,000 feet. It so harried the raiders that they were forced to jettison their bombs over the woods of Surrey and Sussex and to race for home and safety. They suffered severely on the way. Fourteen of them—four Heinkels, three Dorniers, three Messerschmitt 110's and four Messerschmitt 109's fell to the guns of the Poles. Their English leader was slightly wounded

and one Polish flying officer was missing at the end of the pursuit. That was the sum of their losses in a great day's work.

On September 26 one of the Polish squadrons and a British Hurricane squadron broke up and drove back across the English Channel a formation of 150 German aircraft. They destroyed nine Heinkel bombers and four Messerschmitt fighters that day. Next day the Poles and a squadron of the Royal Canadian Air Force attacked nearly a hundred enemy aircraft to the south of London and shot down sixteen of them; the Poles' share was ten. On September 30 one of the Polish squadrons had the satisfaction of bringing its score to more than a hundred enemy aircraft destroyed; on that day it chased thirty Dornier 215 bombers from Beachy Head to the French coast, shooting down one of the escorting Messerschmitt fighters near Beachy Head, two more near the French coast, and one of the Dorniers on land in France. Perhaps in that instance the pilots engaged, on their return, in the tribal dance of triumph which they have been stated to indulge in on special occasions. It is, apparently, a kind of strip-tease dance, which ends with the participants in *puris naturalibus*. About that, however, there is a good deal of doubt. There is none about the fact that these Poles are wonderful airmen. 'They are tremendous fighters,' said a British pilot early in September, 'their enthusiasm is infectious. When they go tearing into the enemy bombers and fighters they go so close you would think they were going to collide.'

The Polish fighter squadrons had brought down

more than 300 enemy aircraft in the Battle of Britain, General Sikorski, the Prime Minister of Poland and Commander-in-Chief, stated on November 25. One squadron destroyed 120 in five weeks, it was stated by a squadron leader, a Canadian, who had served with it, in a broadcast to Canada on December 23. 'It was a grand experience, flying with the Poles,' he said. 'You can take it from me that these Poles were magnificent fighters, and they still are. They introduced their own technique into air fighting. They sailed right into the enemy, holding their fire until the very last moment. That was how they saved ammunition and how they got so many enemies down in each sortie.'

Polish Bombers

The two Polish bomber squadrons were formed only towards the end of August. Crews drawn from them took part in the raid against Boulogne on September 14, three weeks later. They received on the following day a message from Commander-in-Chief of the Bomber Command, congratulating them on 'the successful completion of their first operation last night'. The two squadrons have their own Polish Commanders with the rank of Wing Commander. They are equipped with Fairey Battle medium bombers, which are at least an improvement upon the machines which some of them flew in their own air force. These machines have not sufficient range for long-distance raiding, and the German intelligence service was sadly at sea when the German wireless stations announced on September 3 that Polish

airmen had taken part in a raid on Berlin during the previous night and had then flown on to Warsaw. There was no raid against Berlin on that night and no Poles took part in any raid into Germany. They could not have reached Berlin in their Battles if they had started.

The Czech Airmen

When Mr. Churchill congratulated the Fighter Command on the great success achieved on September 15, when its pilots destroyed 178 enemy aircraft, he referred expressly to the aid given 'by squadrons of their Czech and Polish comrades'. He rightly linked the Czechs with the Poles; their record has been almost as fine. The Czech airmen had already won great distinction while serving with the French air force; flying Dewoitine and Curtiss fighters, they brought down more than a hundred German aircraft in France. When French resistance came to an end they made their way to England. Some were carried here in our bombers, others succeeded in flying here themselves, still others reached this country by sea indirectly. They were formed into a special squadron of the Royal Air Force, equipped with Hurricanes, and were reviewed by Dr. Benes on August 9, when he wished them success and looked forward to their flying 'over our beautiful Prague'. They went into action first on August 26, when they shot down a Dornier 215 bomber and a Messerschmitt 110. On August 31 they were still more successful, destroying six enemy aircraft, and they improved on that record on September 3, when their

bag was seven—six Messerschmitt 110's and one Dornier 215. They had then destroyed sixteen German machines for a loss of two of their own Hurricanes and one pilot; the other pilot baled out successfully. The remaining Hurricanes had not even a bullet hole. The Czech fighter squadron has added since then to its list of successes, and a second fighter squadron has been formed; the latter had its first success—in its first engagement—on October 8, when three of its pilots intercepted and shot down a Junkers 88 which was heading for Liverpool.

There is also a Czech bomber squadron, formed at the end of July. It had its first raid, against the goods yards at Brussels, early in September, 43 days after the squadron had come into existence. Its members were already experienced airmen, and the fact that not one of them at first spoke English proved to be no bar to their mastering the technique of British bombing practice very speedily. A number of them spoke Russian, with which their British commanding officer was familiar also, and very soon they had picked up a sufficient knowledge of English to enable them to understand the station and operational orders. Their pilots, air gunners, navigators and wireless operators were given intensive courses of instruction before they were allowed to take part in the actual work of raiding. When they were regarded as being sufficiently proficient the only difficulty was that they *all* wanted to take part in operational flights, and it was necessary to pick the crews out of the many competitors who were eager to go into action.

The most successful of all the Czech fighter pilots

served, it may be added, with the Poles. He was Sergeant Josef Franzek, who, when he was killed in a flying accident in November, had brought down twenty-eight enemy aircraft, seventeen of them in the Battle of Britain. He had already fought both in Poland and in France, and held three high awards for valour—the Polish ‘Virtute Militari’, the French *Croix de Guerre*, and the British Distinguished Flying Medal. ‘In battle,’ said his squadron leader, ‘he was a deadly killer.’ He was twenty-eight years old when he died; a year of his life for each of his victims in air combat.

The Free French Airmen

There are French airmen also in Great Britain in the forces commanded by General de Gaulle. A *communiqué* issued by his headquarters on July 22 stated that airmen of his forces took part in the operations of the previous night against objectives in north-west Germany, that important results were observed, and that all returned safely. It was stated in one of our own *communiqués*, on December 13, that a Free French pilot in the Royal Air Force Spitfire squadron had shot down a Messerschmitt 109 over the French coast.

The Dutch Airmen

The Dutch airmen serving with the Royal Air Force are peculiar in one respect: they are, or some of them are, flying their own original aircraft. They are members of the Royal Netherlands Naval Air Service who succeeded in escaping to England when

their country was over-run in May. They brought their Fokker T.8W. seaplanes to this country and have since then done useful services around our shores in the Coastal Command of the Royal Air Force. Other Dutch pilots who escaped at that time have been similarly employed on coastal reconnaissance duties but have been flying British machines—Avro Ansons—instead of Fokkers. Some Dutch subjects are serving also in other branches of the Royal Air Force, but without their original equipment. The Dutch Army air contingents were practically annihilated in the fierce air fighting which took place on May 10, 11 and 12. They put up a most gallant fight, destroying (according to Jonkheer Bee-laerts von Blokland) 150 German aircraft before they were overwhelmed by sheer numbers. 'Always', he has said, 'new swarms of German 'planes would come out of the East until no Dutch fighters were left to attack them.'

The Belgian Airmen

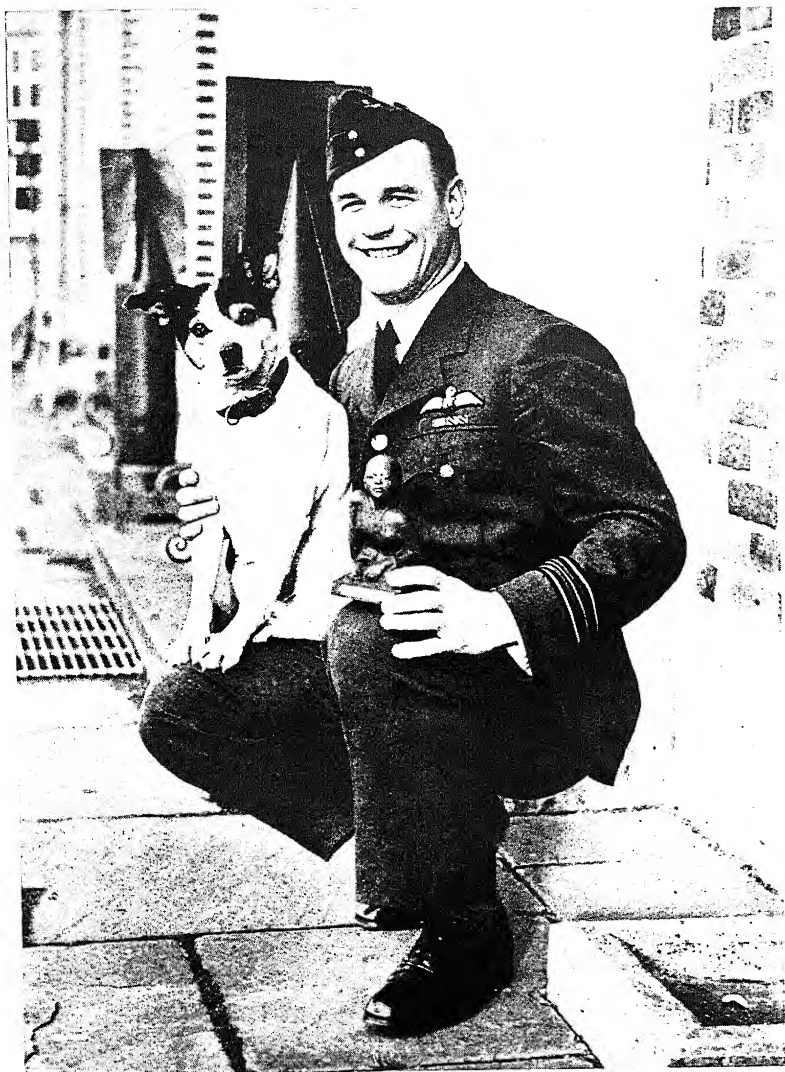
The Belgian air force went down with King Leopold's army, but some of its members made their way to England, and they, too, are performing valuable service under our Coastal and Fighter Commands. Two of them, both of whom had been in the Belgian air service, shot down two Heinkel 60 seaplanes in the English Channel before breakfast on October 8. They were flying Blenheim fighters of the Coastal Command and met the first of the German seaplanes between the Isle of Wight and Cherbourg and the second off Portland Bill. The Heinkel

60, a single engine biplane, is 'easy meat' for such a machine as the Blenheim fighter, with its far more powerful armament, and the Belgian pair had little difficulty in accounting for their opponents in the briefest space of time. There are Belgian pilots serving also in the squadrons of the Fighter Command. It was stated officially on December 18 that they had destroyed at least eighteen enemy aircraft since they came to this country after the invasion of Belgium.

The Canadians

Fine as the achievements of our Allies have been, the brunt of the air fighting—and of all the work in the air—in the Battle of Britain has been borne by men of British race from home and overseas. From every part of the Empire they have come to defend the parent land from the peril which, threatening us, threatens them all. Wing to wing with our own magnificent airmen young men from the Dominions, from India, from the Colonies, have been fighting and beating the airmen upon whose success in air combat Hitler relied for his oft-threatened annihilation of our country.

In the Battle of Britain they have been in the thick of the fight, these splendid pilots from overseas. The Canadians, as of right, have been in the van. They have fought the raiders over the heart of London, over the Houses of Parliament and Westminster Abbey, over the 'ships, domes, theatres and temples' of the city to which many of them were strangers a year ago. Two wonderful fighter squadrons have won lasting renown in the air battles over and round



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A CHAMPION FROM SOUTH AFRICA

Squadron Leader A. G. Malan, D.S.O., D.F.C. and Bar, No. 74 Squadron, R.A.F., the hero of many air battles; his two mascots, a dog and a Javanese statuette, are on his knees.

the capital. One is a unit which was formed, early in the year, of Canadian pilots and is commonly referred to as the 'All Canadians'. It took part in the fierce fighting over Dunkirk, operating from a base in England, and destroyed twenty-eight German aircraft there in a few days at the end of May; probably as many more were put out of action as well. In June it was sent to France and was one of two squadrons which were the last to leave that country when French resistance collapsed. It operated in France from Chateaudun and Le Mans, south-east of Paris, and inflicted more heavy losses on the enemy. Later, it had to find landing grounds wherever it could, and eventually reached Nantes, where the Advanced Air Striking Force was being evacuated after its arduous campaign of eight months in France. From Nantes it flew back to England.

Since then the 'All Canadians' have added success to success. One of their great days was August 30, when in a single patrol they destroyed eight Messerschmitt fighter-bombers and three Heinkel 111 bombers, polishing off a fourth Heinkel which had been damaged by another squadron. They thus accounted for twelve enemy aircraft, and in doing so they sustained no losses whatever. On September 7, they repeated the performance; they shot down four Dornier bombers, six Messerschmitt 110's and two Messerschmitt 109's: again twelve in all. Two days later, on September 9, they fought a great air battle above the streets of London. They encountered the enemy formations on the south side of the Thames below London Bridge and chased them up the river

to Hammersmith, so chivvying them that not a bomb could be dropped. Three Dornier bombers, three Messerschmitt 110's and four Messerschmitt 109's fell to their Browning guns that day. On September 15, again, they contributed their quota to the 'bag' of 185 enemy aircraft which our fighters and anti-aircraft guns secured on that day of fierce air fighting. They went up twice. In the morning they hunted an enemy force all the way from Hammersmith to Beachy Head, destroying five Dorniers and a Messerschmitt 109 on the way. In the afternoon they met the enemy again over the London River and shot down three more Dorniers, a Heinkel 111 and three Messerschmitt 109's. In one day, therefore, they destroyed thirteen enemy machines.

For the four days in question the 'bag' of the 'All Canadians' was forty-seven enemy aircraft, of which twenty were large bombers, seventeen were fighter-bombers (Me.110) and ten were single-engined fighters (Me.109). In monetary value alone the destruction of these machines was a very serious loss to the *Reich*. One may take the value of a Dornier or Heinkel bomber as about £25,000 to £30,000; of a twin-engined Messerschmitt as £10,000, and of a single-engined Messerschmitt as £7,500; these estimates, which include the cost of armament as well as engines, are conservative. The *matériel* which the Canadians destroyed in these four days was therefore of a value of at least £800,000, probably a good deal more. The loss inflicted upon the *Luftwaffe* in personnel killed or captured was of still greater importance. There are four trained airmen, sometimes

five, in the crew of a Dornier or Heinkel, two or three in a Messerschmitt 110, one in a Messerschmitt 109. At least 130 airmen must have been lost to the German air force as a result of those few hours of fire and fury.

No. 1 Squadron R.C.A.F.

Confusion occasionally arises between the squadron just mentioned and another Canadian squadron which has also been helping to defend London. The latter is No. 1 squadron, Royal Canadian Air Force, which arrived in this country in the summer as a complete unit fully equipped with its own Hurricane fighters—the 'All Canadians' fly Hurricanes, too—and a good supply of spare parts and replacements as well as its own transport, medical equipment, etc. Its ground staff, it is interesting to note, was largely trained under the Empire Air Training scheme. It went into action first in August, having arrived too late for the fighting at Dunkirk or in northern France, and its operations have been for the most part round London. It was engaged on September 9 and again on September 15; on the latter date it shot down three Heinkel bombers over Kent. It improved on that score on September 27, when, with one of the Polish squadrons of the Royal Air Force, it broke up a strong enemy attack south of London and destroyed six of the sixteen victims which fell to the guns of the two squadrons. The 'All Canadians' and the Royal Canadian Air Force squadron had accounted for considerably more than a hundred enemy aircraft between them by the end of September.

born in Wellington, South Africa, and has been serving with H. M. Stephen, referred to below, in No. 74 squadron, and so is M. T. St. J. Pattle, who was born at Butterworth, Cape Province. Another South African, A. G. Lewis, a Kimberley man, has had the distinction of destroying six enemy aircraft on one day, September 27. This feat has been rivalled by a young English flying officer (born in India) in the Western Desert; he destroyed six Fiat CR.42 fighters in a quarter of an hour in December.

Irishmen in the Royal Air Force

It is a tragedy that no unit of the Eire Air Force has been serving with ours in this war. One imagines that many of its members would have longed to be in the fight. Irishmen, however, are to be found in plenty in the Royal Air Force. The first pilot to be awarded the V.C. in the present war was D. E. Garland, who was born in Co. Wicklow, and with T. Gray as his air gunner led the Fairey Battles in their great attack on the bridges over the Albert Canal in May. Both Garland and Gray perished in this daring raid. Another Irishman in the list of 'Aces' is John Ignatius Kilmartin, who was born in Dundalk and was described in the award to him of the Distinguished Flying Cross as 'a magnificent leader'.

The Sons of the Motherland

One might perhaps conclude from the particulars set forth in the preceding pages that the Battle of Britain has been waged in the air mainly by airmen who came from countries other than Great Britain

itself. That would be a complete misconception of the position. It is by men born and bred in this island that the great bulk of the fighting in the air has in fact been done. With the exception of Garland all the airmen awarded the V.C. have been natives of Great Britain. T. Gray was a Wiltshire man, R. A. B. Learoyd was born at Folkestone in 1913, John Hannah at Paisley in 1922, J. B. Nicolson at Hampstead in 1917. The first member of the Air Force to receive a 'field award' of the Distinguished Service Order, H. M. Stephen, of No. 74 Squadron, is a native of Scotland, Ballater, Aberdeenshire, being his birthplace.

The British Aces—

Scrutiny of the list of British 'Aces' shows how unfounded is the idea that the defence of Britain has not been shared in fully by its sons. Only a few were born abroad. A. C. Deere and B. J. G. Carbury, for instance, were born in New Zealand, M. Brown in Canada, and the late S. D. P. Connors and L. R. Clisby in India and Australia respectively. J. H. Lacey, G. Allard, G. C. Unwin, J. C. Dundas, R. F. Hamlyn and J. C. Freeborn are Yorkshiremen. M. N. Crossley was born in Warwickshire, A. McDowall in Wigtown, R. R. S. Tuck at Catford, H. J. L. Hallows in Lambeth, D. R. S. Bader in Marylebone, J. W. Villa in South Kensington, F. Carey in Brixton, R. F. T. Doe in Reigate, C. F. Courant at Luton, J. H. Mungo-Park at Wallasey. E. S. Lock's home is at Shrewsbury, R. F. Boyd's at Kilbride in Scotland, E. M. Mason's at Blackpool.

The list shows, too, how diverse are the origins of our great air fighters. One finds in it an Etonian—M. N. Crossley, and, on the other hand, ex-apprentices of the Royal Air Force itself in G. Allard and H. J. L. Hallows. J. H. Lacey had been an unqualified chemist's dispenser before he joined the Royal Air Force. Every kind of calling is represented in a chart of the sources of our gallant *personnel* of the air service.

Stephen's Bag of Five in a Day

Very near the top of the list is the name of H. M. Stephen. His most notable exploit was the destruction of five enemy aircraft in a single morning. He shot down two Messerschmitt 109's before breakfast, and followed up this good beginning by destroying a Messerschmitt 110 which, with about forty others, was attempting to attack a convoy. A little later he found a second Messerschmitt 110 chasing another Spitfire and assisted his comrade by silencing the German's rear-gunner; then he sent the Messerschmitt itself crashing into the sea. Finally, just before lunch-time, he caught a fifth Messerschmitt which was one of a number escorting a formation of dive-bombers but had straggled, and shot it down on the beach. In addition to the five definitely destroyed, three others which Stephen attacked on that day were damaged by his fire.

Hamlyn's Five

There are one or two other pilots who have similarly destroyed their five enemy aircraft in one day.



Planet News Ltd.

MIGHTY IN BATTLE

Flight Lieutenant J. H. Mungo-Park and Flying Officer H. M. Stephen, who, with Malan, Freeborn and the other gallant pilots of No. 74 Squadron, are adding to the laurels which Mannoek won for it in 1918

One was Squadron Leader McKellar to whom further reference is made below. Another is Sergeant R. F. Hamlyn, who performed the feat on August 24. He has himself told the story.

He with his Spitfire squadron was in the air that day just after five o'clock; nothing happened, it seems, in the first sortie, but in the next, shortly before half-past eight, three or four waves of Junkers 88 bombers were sighted and attacked before their escort of fighters could intervene. Hamlyn selected the end bomber of one formation and shot it down into the sea with a two-seconds burst. He then throttled back, in order to avoid the cross-fire of the other bombers, and was at once attacked by a Messerschmitt 109, which overshot him and in doing so presented 'a beautiful target'. Hamlyn gave it (again) a two-seconds burst, and it was sent, smoking, into the sea. His squadron then went home to breakfast.

'As a matter of fact', said Hamlyn, 'I didn't get any breakfast at all. I only had time for a hot drink before we were ordered to stand by again, and by half-past eleven that morning we were patrolling the south-east coast.' There a dog-fight ensued with half-a-dozen Messerschmitt 109's, which the Spitfires chased across the Channel. Hamlyn followed one across the French coast and after giving it a three-seconds burst saw it crash into a field in France. So far, he had not received a scratch anywhere on his machine.

The next sortie came at four o'clock in the afternoon. The pilots were flying toward the Thames

Estuary at 5000 feet when they saw anti-aircraft fire bursting in the sky to the north-east. They made for the place and found twenty Messerschmitt 109's escorting twenty Junkers 88's, the latter flying in tight formation. Our Spitfires attacked the Messerschmitts and Hamlyn shot down two of them, the first after two short bursts and the second after three. 'The whole machine became enveloped in flames and pieces began to fly off,' he said of his fifth victim. 'Finally, as it went down, more pieces came off, all burning. As it tumbled down towards the Thames Estuary it was really a bunch of blazing fragments instead of a whole aircraft. It was an amazing sight.' 'None of the fights on Saturday (August 24) lasted more than five minutes each,' he added.

Some Daring Exploits

Another sergeant, D. E. Kingaby, a Holloway man, destroyed four enemy aircraft in one day, and individual pilots' bags of two and three have not been uncommon. Two were brought down, for instance, in the dare-devil exploit of a Canadian from Winnipeg, serving in a Royal Air Force squadron—Flight Lieutenant J. A. Kent. Early in October he attacked forty Messerschmitt 109's, single-handed, and destroyed two of them.¹ Another wonderful feat was that of K. W. McKenzie, a Belfast man, who, in a dog-fight in October, when all his ammunition was expended flew alongside a Messerschmitt 109

¹ Flying Officer I. S. Soden, D.S.O., since missing and presumed killed, once attacked, single-handed, between 50 and 60 enemy aircraft, of which he destroyed one; but that was in the Battle of France.

and, having endeavoured to force it down into the sea in vain, severed its tail with his wing-tip; he himself escaped injury. A Hurricane pilot rivalled this achievement. He also had exhausted his ammunition but he was determined to 'get his man'; he therefore rammed his quarry, a Dornier bomber, amidships and tore off one of its wings. His own cockpit became swamped with glycol fumes and he had to bale out but landed safely. Another pilot, T. P. M. Cooper-Slipper, a Worcestershire man serving in No. 605 Squadron, Auxiliary Air Force, deliberately rammed and destroyed a German aircraft after his own controls had been almost shot away.

Auxiliary Air Force Squadrons

A. A. McKellar was squadron leader of No. 605 Squadron, referred to in the preceding paragraph, when he was killed. He had previously served in No. 602 (City of Glasgow) squadron, which has had a fine record in the war. McKellar himself had shot down about twenty enemy aircraft before his death in November. Of these he destroyed five in one day. He began by shooting down four Messerschmitt 109's in the space of ten minutes over Kent; each of the four went down in flames. Three hours later he went up again and shot down a fifth Messerschmitt 109. Before this achievement he had destroyed eight enemy aircraft in eight days in the defence of London. A native of Paisley, where he was born in 1912, he served London well.

The City of Glasgow Auxiliary Air Force squadron, No. 602, is a Spitfire squadron. Its greatest day

was August 25, when its twelve pilots shot down twelve enemy aircraft, out of a large formation, without any loss to themselves, in the region of Dorchester. (How the ancient warriors who sleep in the shade of Maiden Castle, that colossal earthwork of three thousand years ago, would have marvelled at the strange, new mode of warfare in their sky!) It had another day of triumph on October 29, when it engaged a formation of fifty Messerschmitt 109's over Kent at a height of six miles and shot down eight of them. No. 602 squadron has destroyed more than a hundred enemy aircraft in all.

The City of Edinburgh squadron, No. 603, has about the same record as the Glasgow squadron. It also has destroyed a hundred enemy aircraft. To this squadron fell the honour of bringing down the first German aircraft to be destroyed off the coast of Great Britain—on October 16, 1939. It won the distinction by a very short head from its Scottish rival, No. 602 squadron, which brought down the *second* enemy aircraft just a quarter of an hour later. No. 602 squadron, it may be added, also attacked and disabled the first enemy aircraft forced to land on British soil—on October 29, 1939; and again—mark how the two cities vie with one another—it was No. 603 squadron which gave the 'final count' to the Heinkel bomber concerned. A Yorkshire Auxiliary squadron has also a big score to its credit. It has fought at Dunkirk, in the Channel battles and in defence of London and of the cities of the south and west. No. 601 (County of London) Auxiliary Air Force squadron has also a splendid record; ten Dis-

tinguished Flying Crosses have been earned by its pilots—a really remarkable achievement.

Nazi Pilots Surrender

On more than one occasion our pilots have forced German pilots to land by a kind of bluff. One instance occurred on August 31, south of Maidstone. A Hurricane pilot had run out of ammunition after shooting down two enemy fighters. He followed a third Messerschmitt 109 to ground level, flew beside it and pointed down to the ground; then he made a dummy attack, whereupon the German pilot landed and put up his hands above his head. Our pilot threw him a packet of cigarettes and after seeing that the German pilot had been taken into custody by some Home Guards, flew off to rejoin his unit. A later instance occurred on October 8, when a Flight Lieutenant of a Spitfire squadron also forced a Messerschmitt which he had damaged in an air combat to land. 'I followed him down,' said our pilot, 'and then I drew alongside and pointed to the ground. The German pilot waved back. He drew back his hood and made signs that he was going to land. I watched him crash-land in a field and flew around until I saw that he had been taken prisoner.' The German pilot, it will be seen, survived in each of these instances. The crew of a Dornier bomber which Sergeant P. A. Burnell-Phillips, who had expended all his ammunition, but nevertheless kept up the motions of attack, forced into the sea, were less fortunate; all were lost when the Dornier crashed.

The Bitterness of the Fighting

It might possibly be assumed from the examples given above that the air fighting in the Battle of Britain has been a rather one-sided affair. That has certainly not been the case. It has been bitterly contested, in general. On some days we lost more fighter machines than did the Germans. We lost seven on September 20, the Germans four, but, as three of our pilots were saved, the balance was even as regards *personnel*. On October 22, we lost six fighters and the Germans only three; two of our pilots escaped. On November 28 we lost seven fighters, one pilot only being saved of their occupants, and the Germans lost five. Usually, however, the German losses have greatly exceeded ours. Notable instances were the destruction on August 11 of ten Messerschmitt 110's by one Spitfire squadron, which suffered no loss whatever, and the destruction on September 4 of twelve Messerschmitt 110's (Jaguars) by eleven Spitfires, again without any loss to themselves. In another engagement, on November 15, over the Thames Estuary, our fighters shot down seventeen Messerschmitt 109's and 110's, but we lost two machines (but one pilot only) on that occasion.

Man for man, our fighter pilots have been definitely on top of the German fighter pilots. Of that there is no doubt whatever. It is the more remarkable when one remembers that they have been matched against fanatics. The *Luftwaffe* is composed of young men bred in the Hitlerian *Reich*, of the Hitlerjugend, youths taught to believe that they be-

long to a race apart, to a chosen people before whom all others must bow the knee. The greatness of Germany is the sole aim of all human endeavour. The State is everything, the individual nothing. There is nothing else that matters than the service, unquestioning and unceasing, of Adolf Hitler. He is in truth the volcano-god of this tribal community of the new Germany. A whole generation there has gone back to the jungle. That is the tragedy of Germany to-day. It is the measure of the greatness of the achievement of our young airmen that they should have met these other young men in battle and cut them to pieces.

Towards men poisoned by the dope of Nazi doctrines our airmen cannot feel as they felt towards their opponents in the last great war. Then there was chivalry in the air. The great German fighters, Oswald Bölcke, Max Immelmann and others, were doughty foemen, but fair fighters. Our men respected them. To-day it is a different state of affairs. The Nazi airmen have shown themselves to be foul fighters. Our British pilots first began to 'see red' when they were witnesses of the machine-gunning of women and children thronging the roads of Belgium and France in pitiful processions. Then, at Dunkirk, they saw their own comrades being murdered by bomb or bullet as they struggled in the water in the attempt to save themselves when their boats had been sunk. The feeling of indignation grew more intense when they learned that some of our pilots had been brutally attacked by the Nazi airmen during parachute descents.

Machine-gunning of Pilots in Parachute Drops

A Hurricane pilot was killed in this way on August 30, when he baled out at 15,000 feet. 'As he was floating down,' said the Air Ministry Bulletin, 'three Messerschmitts swooped on him and opened fire at his swaying figure. He was riddled with bullets.' Another Hurricane pilot who baled out over south-east England on September 2, at 20,000 feet, was more fortunate. 'The dirty blighters had a crack at me', he said, 'when I jumped for it.' Their aim was as poor as their sportsmanship and he escaped injury. A Spitfire pilot who baled out over London was less lucky. He alighted, by a strange chance, on top of a barrage balloon, which was hauled down, but he was so severely wounded that he died on the way to hospital. Replying to a question in the House of Commons on January 22, Sir Archibald Sinclair stated that there had been at least twelve instances of 'these contemptible attacks' and that in four of them the airmen may have been killed.

The Fascist airmen have shown that in this respect they are as foul fighters as their Nazi brethren. On December 22, a fierce battle air took place near Argyrokastro in southern Albania between nine of our fighters and over fifty Italian aircraft. Our pilots, outnumbered nearly six to one, destroyed eight of the Italian machines and probably three more; two of our fighters were lost. The pilot of one of them baled out and as he descended he was machine-gunned by enemy fighters. He died after landing of the wounds received during the parachute descent. 'It is placed on record', said the *communiqué* issued



Central Press Photos Ltd.

SERGEANT JOHN HANNAH, V.C.

This 18-year old radio-operator won his V.C. by his extreme gallantry and devotion to duty when his bomber caught fire during a raid on Antwerp on 15 September, 1940

by R.A.F. Headquarters, Middle East, on December 23, 'that this is the second occasion since hostilities began in the Middle East that irrefutable evidence has been received of a R.A.F. pilot having been machine-gunned while making a parachute descent. This follows the practice of Italian pilots adopted in the Spanish war.'

No doubt it is a satisfaction to the Italian fighter pilot to feel that sometimes at least he has the British pilot at his mercy; he cannot have that feeling very often in ordinary circumstances. Our men have shot the Italian fighters and bombers to bits on many occasions; on November 11, for instance, when they destroyed thirteen of them in the Thames Estuary with no loss to themselves. The superiority of our airmen has been due in part, but by no means solely, to their better equipment. The Italians have not yet discarded the use of biplane fighters of wooden construction. This type of machine is entirely out of date.¹ There have been three stages in fighter design in the last fifteen years. The first was the stage of the wooden biplane with fabric covering. It was succeeded by the era of the biplane with high-tensile steel framework. The third stage, the present one, is that of the all-metal, stressed-skin cantilever monoplane. We, the Germans and the Americans have been for some years in the *third* of these stages. The Italians are still hardly beyond the *first*. That fact is

¹ 'Despite the brilliance of her designers, Italy entered the war with her air force for the most part flying out-of-date types.' (Major F. A. de V. Robertson, *Nineteenth Century*, December 1940.)

an eloquent commentary upon Fascist boasts of the invincibility of the *Regia Aeronautica*.

The Toughness of our Fighter Machines

Our own fighter pilots can take the air in the firm assurance that their machines are better than the enemy's. That feeling cannot but have a heartening effect upon *morale*. They know that their equipment is sound. 'Again and again during the fierce air battles over England', said an Air Ministry Bulletin of September 13 (No. 1707), 'pilots of the Fighter Command have been discovering just how tough they (their machines) are. Many pilots who are fighting again to-day owe their lives to the skill of the men who made the Spitfires and Hurricanes which carry them home although battered by enemy shells and bullets.' The Bulletin quotes a Spitfire pilot whose aircraft was severely damaged by one Messerschmitt 109 after he had destroyed another. 'My fuselage and one wing were hit, severing the rudder controls completely. The elevator cables and wireless were also hit. I managed, however, to return to my base and forced-landed with very little additional damage to my wing-tips.' Another pilot survived to tell the tale after his cooling mixture pipe had been hit as well as his airscrew and both main planes; he had to lean out of the cockpit, which was filled with smoke, in order to breathe.

Disintegration of Messerschmitts

In contrast, the Me 109 of these days was inclined to break up under intense attack. An Air

Ministry Bulletin of November 11 (No. 2230) gave some extracts from pilots' reports which bring out clearly this characteristic failure of the German equipment. 'I gave it about a seven seconds burst, said one pilot; 'no other action was necessary, as it disintegrated and fell from the sky in hundreds of pieces.' 'The Messerschmitt disintegrated,' said another; 'the panels were falling off.' 'Everything poured out and bits flew off,' said a third. Other extracts were: 'Bits flew off, glycol streamed out of both his radiators and I last saw him give a sickening shudder.' 'Pieces were flying off in all directions.' 'The left wing fell from the Me 109.' 'A large piece broke from the Messerschmitt and it jerked very noticeably, finally turning on its back and going down vertically.'

'He just went to pieces,' a pilot, a native of Brisbane, said of a Messerschmitt 110 which was shot to bits by three Spitfires on October 8. 'In the first few seconds part of his tail flew off and then the rest of the tail was shot away. Next I saw a large number of cowling plates and things fly off the sides. Then I saw one of the engines blow up and a second or two later the other engine caught fire. Then the fuselage blew up and the cowling came off. By now he was diving at a good 500 miles per hour. One huge flame from the machine stretched thirty yards behind him and a great column of black smoke poured out behind. He hit the water at a tremendous speed. No one got out.'

Effect of our Cannon-fighters

Some of our fighters are now equipped with cannons and the effect of these is well described in the report of a pilot quoted in an Air Ministry Bulletin of December 12 (No. 2499). Four of our fighters had attacked ten to fifteen Messerschmitt 109's, and one pilot, the holder of the D.F.C. and Bar at the age of twenty-one, singled out a pair of the German machines as his target. 'At fifteen miles over the Channel', he said, 'I got within range of my cannon. I fired a few rounds at one but missed, perhaps because I was overtaking him so quickly. So I turned my attention to the other one. This time, from dead astern, I fired very deliberately with my cannon. What happened then was like nothing I had ever seen before, not even on the pictures. I gave him two short bursts. The cannon shells went boom-boom and one must have struck his petrol tank. The Messerschmitt 109 exploded in front of me like a bursting A.A. shell. There was a quick flash, a cloud of black smoke, and bits were flying through the air. The stuff was simply dripping out of the sky. I broke away and looked round. The smoke quickly dispersed and of all the pieces falling around me there wasn't one I could recognise as any part of an aeroplane. It was the most amazing sight I have ever seen—I only hope the same thing happens every time I fire these lovely cannons of mine.'

The Battle of Britain, 1941

In thinking of the debt which we, the many, owe to the incomparable few who saved us in our hour of

peril, we must never forget the part played by the designers and constructors of the splendid machines which those matchless pilots flew. New and better fighter machines, with more powerful armament, will be brought into use by the Nazis, we need hardly doubt, in the Battle of Britain in 1941. We, too, shall have our improved types to set against them: the Tornado, the Whirlwind, the new Lockheed, Curtiss and Airacobra fighters from America. We should be able to hold the lead which we established in the Battle of Britain in 1940. If we can do so, and if the supply of the new machines can be maintained, that is, if we can keep our own aircraft factories working and the ocean route to and from the west unbroken, then the Battle of Britain will shift back again and become the Battle of Europe. There the great contest will be staged for the final mastery of the air. The few who held the pass in the air in August and September of 1940, will have become, in comparison, the many of the autumn of 1941. When that stage is reached the Nazis will be forced back from the positions from which they can now launch their air assaults upon us more easily than we can launch our counter-offensive against their homeland, and the end of the great conflict will then be near.

If the end is to come, if we are to win that mastery in the air without which no victorious issue of the struggle can be achieved by us, then we must keep ahead of the Germans in the quality of our *personnel* and our *matériel*. There must be no resting on our oars, no relaxing of our efforts to improve performance, no lowering of the standard of training of our

pilots and other airmen. We must be constantly seeking to make the better best, alike in men and machines. Quality is of more importance than quantity in air warfare. It was because we had better men and better machines that we won the Battle of Britain, 1940. We shall win the further stages of that Battle, we shall win the Battle of Europe, if and only if we have in the future, as we have had hitherto, airmen who are better trained than those of the *Luftwaffe* and aircraft that are better designed, constructed and armed than theirs. There is no reason why we should not keep our lead, but if we are to do so, we must be improving the performance of our equipment all the time and we must maintain the high standard of our instructional technique.

CHAPTER IV

The Threat of Invasion by Sea

The German Army's Predominance

In Germany the army is the primary arm. It is to her what the navy is to Britain. The German air force is a secondary arm. It is the hand-maid of the army. Its role is to co-operate with the army, to assist the latter to sweep across the enemy's frontier, to act in close contact with the swiftly moving mechanised forces which cleave a path for the infantry divisions in their wake. It was thus that Germany crushed the resistance of her neighbour-states. The *Luftwaffe* acted in each instance in the closest co-operation with the land forces. It was practically an advanced guard of the army. It played no independent part. There is nothing of the (so-called) strategic use of the air arm to be found in the operations against Holland, Belgium and France. The co-operation between the land forces and the air arm was extraordinarily effective but it was a co-operation in which the army was always and unmistakably the senior partner.

There is no reason to suppose that the military philosophy of Germany was abandoned for a new one when the Battle of France was won. The same methods which had led to that swift and crushing

triumph would naturally be expected to yield results as satisfying when employed against France's former ally. True, there was the English Channel to be bridged, and that was a formidable tank-trap. It was not, however, an impassable one. Teutonic ingenuity and thoroughness and totalitarian drive and enthusiasm might be expected to find some way of surmounting even this obstacle. After all, the invasion and conquest of Norway by a Power which had not secured the command of the sea had been thought to be an impossibility. The invasion and conquest of the island of Great Britain, perhaps of the island of Ireland as well—or even first—could not be regarded as a feat beyond the powers of the Hitlerian *Reich*. In any case, there was no other way to bring the war to an early end except the subjugation of our island fortress; and the Nazis dreaded the coming winter, knowing the strain that it would impose upon Germany's economic structure. The blockade of Britain by means of the U-boat, the surface raider, the mine and the sea-going aircraft was a long-term policy. It could not yield results at the early date which was desired. Invasion by sea was the winning card.

The Purpose of the Air Attacks of the Autumn

The great air attacks on south-east England in the autumn of 1940 were only a means to an end. The immediate object was to achieve mastery of the air over that triangle of the country and, mastery achieved, to launch the invasion by sea and simultaneously by air. The latter operation would have



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A FALL LIKE LUCIFER'S

A Dornier 17 bomber dives to destruction, with both engines on fire, on the south-east coast

been entrusted to the Junkers 52, the troop-carrying aeroplanes, really converted air liners, which had played a most important role in the conquest of Norway in April. Actually the stage was never reached at which the possibility of using the Junkers 52's against Britain should have emerged; but that it was intended to use them, for the purpose, for instance, of seizing our aerodromes, parachute troops being also dropped, there is little doubt, though the main invasion would have been by sea. Another object of the air attacks was the interruption of communications between London and the coast, and the creation of a state of chaos and confusion in which re-inforcement of the coastal defences would have been immensely difficult. Our ability to beat back the attack on our shores would have been impaired if the mobility of our forces had been reduced as a result of the air attacks; as in Belgium and northern France, the crowding of refugees along the roads would have thrown our whole military machinery out of gear and enabled the invading troops to sweep through at a number of points. We were saved from any such catastrophe by the victories of the Royal Air Force over the *Luftwaffe*.

The invasion which there is reason to believe was planned for mid-September may have been a postponement of one which it was originally intended to launch in mid-August. There were current reports of preparations being made for an attempt against our shores at the earlier date. It is significant, too, that the two great efforts made by the

Luftwaffe to drive the Royal Air Force out of the air occurred on August 15 and September 15. The Nazis evidently wished to make us believe that a landing was to be attempted in August; this may have been either a single or a double bluff, the purpose in the latter case being to create the state of apprehension by which the success of an invasion would have been facilitated. At any rate a number of parachutes were found lying in various parts of this country a day or two before August 15, and it was at first reported that German soldiers had been dropped. Later, it was found that many of the parachutes had not even been unfolded and had simply been dumped in the packed state out of enemy aircraft. No parachute soldiers were landed.

The Reality of the Threat

Doubt has been cast upon the reality of the threat of invasion at any date. It has been suggested that the vast preparations made for it were only the cloak for operations which were meanwhile being planned for other theatres, that they were designed to retain in Britain forces which might have been transferred to the Middle East or elsewhere, or conceivably that they were merely a form of the 'war of nerves'. Possibly, but that has not been the view of our Government, and the Government must have had better information than its critics. Ministers have warned the country repeatedly that the threat of invasion was a serious one against which all possible precautions must be taken. All the preparations for invasion on a great scale were steadily

going forward, said Mr. Churchill in a broadcast on September 11. Shipping and barges had been assembled and were being moved along the coast opposite our shores, under the protection of the new batteries on the French coast. 'Behind these clusters of ships and barges there stand very large numbers of German troops awaiting the order to go on board and set out on their dangerous and uncertain voyage across the sea. We cannot tell when they will try to come. We cannot be sure that in fact they will try at all. But no one should blind himself to the fact that a heavy, full-scale invasion of this island is being planned with all the usual German thoroughness and method, and that it may be launched at any time now upon England, upon Scotland, upon Ireland, or upon all three.' If one were to be launched it could not be long delayed, since the weather might soon break. The 'next week or so' was therefore a very important one for us in history, comparable to the days when the Armada was approaching or Nelson stood between us and Napoleon's Grand Army at Boulogne.

Mr. Churchill's reference, quoted above, to the critical period in September might be misinterpreted unless there were appended to it his remarks upon this subject on a later occasion. Speaking in the House of Commons on November 5 he referred to 'those very clever people' who were now talking of 'the invasion scare'. He admitted that the danger of invasion had diminished but denied that it had passed away or might not recur in a more acute form. It was still necessary to be prepared to meet

it.¹ Mr. Churchill repeated his warning in the Commons on December 19. 'The winter season', he said, 'offers some advantages to an invader to counterbalance those which belong to the summer season. It would be a very great lack of prudence, a lack of prudence amounting to a crime, if vigilance were relaxed in our Armies here at home, or if in any way it was assumed that the danger of invasion had passed.'

The Bombing of the Invasion Ports

Our reply to the German threat which began to take visible form in September was the systematic battering of the 'invasion ports' from the air. An Air Ministry Bulletin (No. 2065) of October 23 contained a brief *résumé* of the operations of the Royal Air Force against the ports. 'Since the first threat of invasion was made early last month', said the Bulletin, 'pilots of the R.A.F. have kept a constant watch on all the German sea bases from Narvik in the north to Bordeaux in the south, a distance of about 2000 miles, and there is little doubt that their vigilance and harassing tactics have greatly interfered with the enemy's plan. . . . From the first day

¹ Evidence that an invasion was in fact intended in the autumn was afforded by the conviction of three German agents under the Treachery Act on November 22. They came to this country, equipped with radio transmitting sets, for the purpose of collecting military information, and were promised, they alleged, that they would shortly be relieved by the invading German forces. When they came here was not definitely disclosed, but from a broadcast talk about the case given by an Intelligence Officer on December 10 it appeared that they arrived before the middle of September.

that the enemy concentrated his forces in every available port and harbour, both large and small, aircraft of the R.A.F. carried out reconnaissances and as a result brought back invaluable information. In the early days of September reports showed only small concentrations of men and material, but as time progressed the concentrations became more and more imposing, and before long hundreds of barges and other war equipment were assembled at Antwerp, Calais, Dunkirk, Ostend, Nieuport and Le Havre. From the air many of the barges were daily reported to be moving slowly from one canal to another. Small warships were also moored near the barges, which are self-propelled, over 150 feet in length and each capable of carrying about two train-loads of men or materials. It was known also that Germany had commandeered every available barge of over 500 tons and that armies of workmen were employed in the shipyards, altering the bows of these vessels to enable tanks and guns to be more easily carried and disembarked. Besides these concentrations of barges there were also submarines in many of the harbours, some of them of ocean-going type, large motor vessels, tugs and merchant ships. On one occasion forty-five large merchant ships were reported at Le Havre. Inland, new aircraft shelters were being built on the many aerodromes from which it was expected that enemy aircraft would play their part in the invasion. It was noted, too, that the railways were particularly busy, especially between Germany and the Low Countries.'

On September 5, the Air Ministry Bulletin continued, a strong offensive was begun on a large scale by the Royal Air Force, and in the numerous attacks that followed both by day and by night heavy damage was inflicted. Large buildings at Dunkirk were levelled to the ground. At Calais buildings on the quayside were burnt out. At Lorient not only was damage done to the shore buildings but many casualties were caused among the German troops when the barracks there were bombed, and ships were sunk outside the harbour by mines laid by our aircraft. At the ports on the Belgian and Dutch coasts very extensive damage was also caused by our air attacks. An Air Ministry Bulletin of September 18 described very happily the nature and significance of the raids when it referred to them as being directed against 'the potential invasion spearheads—French, Belgian and Dutch Channel coasts, ships, barges, docks, harbours and gun emplacements.' 'Steadily increasing the pressure on the German-held Channel ports,' said the Bulletin, 'the Bomber Command of the Royal Air Force last night sent one of the largest forces of British bombers so far used in the war to continue the relentless *forestalling offensive* which, for nearly a fortnight now, has been going on against the German invasion plan.' Calais, Dunkirk, Zeebrugge, Terneuzen, Flushing, Antwerp received that night a terrific plastering with bombs which left many of them a mass of raging fire, punctuated by recurrent explosions; and that was but one of many onslaughts hardly less severe.

A Mid-September Mystery

In mid-September something happened which is still a mystery. There were persistent rumours then that an invasion was attempted and was foiled by our naval forces. That was probably untrue, but it is fairly certain that some kind of disaster did overtake the 'invasion fleet' about that time. It is known that a large number of German soldiers had to be treated in hospital for burns, the result, it was reported, of a heavy raid by the Royal Air Force at that time. The raid caught the troops just when they were engaged in a 'dress rehearsal' for embarkation; the boats in which they were carried were sunk and when they took to the water the oil, set alight by the incendiary bombs, burned them severely before they could be rescued. For days after this incident bodies of dead soldiers were being washed up on the French, Belgian and Dutch coasts. A bad storm contributed to the German losses of boats and men at about the same date.

It is assuredly not a coincidence that the Italian advance into Egypt began at the end of the first week in September and reached Sidi Barrani just after the middle of the month. It would have been continued, one may surmise, to Mersah Matruh and beyond that to the Delta if the German invasion had been launched and had succeeded. Resistance in the Middle East might then have collapsed. Mussolini was, in fact, acting again as Hitler's jackal. What spoilt the plan was the great triumph of the Royal Air Force on September 15.

Some Heavy Attacks

During the remaining days and nights of September our Air Force did not relax its grip upon the Channel ports. The attack carried out in the night of September 22 was an especially heavy one. A pilot who took part in the raid said: 'The whole coast from Calais towards Flushing could be seen lit up like the front at Blackpool.' About a month later, on October 20, the Channel ports had another 'terrific battering', it was announced at the time. Long after the sun had risen next morning a red glow, 'like a prairie fire', could be seen from the English coast, stretching for miles and still visible through the haze until noon on October 21. Huge fires were again started in a raid on the night of December 9 and were still blazing fiercely at mid-day on December 10. Indeed, the sight of smoke from the conflagrations caused by our aircraft on the French coast is nothing of a novelty for the dwellers on our side of the Channel. They have a grand-stand view, too, of the fires and explosions which, night after night, ring the horizon to the south.

Our attacks continued because, though the plan for an autumn invasion was wrecked, the menace still remained. The Air Ministry Bulletin of October 23, already quoted, ended with the words: 'The threat of invasion still persists and will persist as long as naval units, barges, troops and air forces are concentrated along the extensive coastline of the enemy-occupied countries. They are still there, and while they remain the 'invasion' ports will doubtless continue to be battered by the bombers



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A NAZI FLYING BOAT SINKS

This Dornier flying boat was brought down in 35 seconds by a Hudson of the Coastal Command off Norway

of the Royal Air Force whenever it is considered necessary.'

Some Criticisms of our Policy

They continued, indeed, to be battered so regularly that complaints were heard from time to time to the effect that our raiding of the ports was being overdone and that our bombers would have been better employed in carrying the war into Germany itself. We killed Germans in the ports, no doubt, but, in the view of Lord Trenchard and others, it would have been better if we had killed them in Germany, because the moral effect would have been greater. That is quite true, but it must be borne in mind that the aircraft employed to raid the Channel ports have not been, in general, those which would be employed, and are employed, to raid objectives in Germany. They have been largely *medium* bombers, not the long-range bombers (Wellingtons, Hampdens and Whitleys) which are alone able to carry the war into the German hinterland. The one kind of operation can be carried on, therefore, without the diversion of machines from the other. In point of fact, the raiding of the invasion bases does eliminate a considerable number of Germans,—Germans who are specially dangerous, viz. soldiers, sailors and technicians.

Another criticism which is occasionally heard is that it is bad policy to prevent an invasion from materialising and that it would pay us better to let it start and smash it up either *en route* or on the shores of this country. To have tried and failed

would be a heavier blow to Nazi prestige than not to have tried at all. This kind of criticism is often simply the expression of the speaker's keenness to 'have a crack' at the enemy, the speaker being usually a member of the armed forces, whose pleasing duty it would be to have the 'crack'. It is the not unnatural reaction to the suspense of waiting for the attack, much heralded and boastfully presaged by German propagandists, to begin. No doubt the troops who stood ready to meet Napoleon's invasion in 1803-05 said very much the same. Yet there is ground for thinking that it would be a blow to our own prestige if an enemy succeeded in putting a foot on our territory, even if the invaders were thrown back again, as assuredly they would be. It has long been our boast that our shores are inviolate. A desperate attempt, planned with sufficient thoroughness and on a colossal scale, might cause great loss of life and property here before it was crushed. The danger would in this respect be greater still if Eire were the invaders' objective, for the defence of that country is totally inadequate.

Future Possibilities

There may still be an opportunity for our home-based forces to meet the enemy on British soil and to deal with him as they desire. The story of the threat of invasion by sea is not ended by any means. We have been warned that it is something more than a possibility. 'We must recognise', said Lord Beaverbrook in a broadcast address on December 17, 'that the enemy is making preparations for the invasion

of Britain even before the spring-time comes: invasion by land and sea, but principally in the air.' It was a coincidence that on the same date Mr. Alfred Landon, the former candidate for the Presidency of the United States, was stating, on his return to Kansas from a visit to Washington, that he had been informed by reliable official sources that 'Hitler was planning to invade Great Britain about the middle of February.' The third of the Junkers trio—the Ju 52 troop-carrier—may be called in to aid in a new attempt. One finds Mr. Colston Shepherd writing at the end of the year: 'The danger is that fighter stations might be overwhelmed and captured by rapid concentrations of troop-carrying aeroplanes at night. It is a very real danger.'¹ A month later, on January 31, 1941, Colonel Knox, Secretary to the United States Navy, warned the Foreign Affairs Committee of the Senate that information from inside Germany showed that an attempt at invasion might begin 'at any moment' and if it did, there were strong indications that gas would be used on a great scale. Lord Halifax, commenting on Colonel Knox's statement, said on the same date that 'internal conditions in Germany make it seem necessary for Hitler to have a go at it soon.' Mr. Churchill, in his broadcast on February 9, 1941, again warned his hearers that invasion was possible at any time, and added that gas might be used.

The danger is that we may begin to disregard the cry of 'Wolf!', perhaps to become bored with the

¹ *The Aeroplane*, December 27, 1940.

threat of invasion. History may repeat itself. A year ago we were hearing constantly of the coming invasion of the Low Countries. We ended by believing that the threat was simply a bluff. It was nothing of the kind. It was real, but Nazi propaganda was able to make it seem unreal by harping on its imminence. It may be the same story now. The long-prophesied attempt may be made when we have reached the stage of thinking it will never be made at all.

That, in any case, is not the only possibility. Before the long game in which Britain and Germany are engaged is lost and won the 'invasion ports' may have a different role to play from that for which they were cast. We cannot see the end as yet, that is to say, the time and manner of the end: all we know is that the end must be victory for us. We do not even know the facts of recent history, nor shall we, probably, until after the war. What has been in our own minds and in our opponents' minds in the moves and counter-moves that have taken place is still obscure, not only in this matter of invasion and the measures taken to prevent it but in other spheres of warlike action as well. The history of which this chapter relates but a small part may be found to culminate eventually in a situation which cannot be foreseen at present and would perhaps seem to be far-fetched if even suggested as being a possible development in the future.

CHAPTER V

The Blockade of Britain

The Four Instruments of the Blockade

The Battle of Britain is a composite affair. We see in and over this island only a part of it. Another part is being fought out far from our shores. It is a desperate battle, an unceasing one, a battle in which thousands have perished. It is less immediately our affair than the battle in the air, less noticeable, less vitally important, perhaps, in our eyes. Yet it may be a decisive battle and its issue affects our national existence. It is the battle waged against our sea-borne trade and the shipping on whose safety our very life depends.

It is not waged by the U-boat alone. The surface raider has been on the warpath, too. So has the minelayer. Our shipping had been subjected to attacks of these kinds in the last war. Now, another kind has been added—a kind which never attained serious dimensions in 1914-18. It is attack from the air, carried out by long-range sea-going aircraft such as the Focke-Wulf four-engined bomber. This has been the fourth of Germany's chosen instruments of terror on the sea. All four instruments—the submarine, the commerce-destroyer, the mine, the aircraft—are being used with a ruthless disregard

alike for international law, for the honourable custom of the sea, and for the primordial laws of humanity.

The Effect of France's Defection

Before the collapse of France, the menace to our shipping had been reduced to tolerable proportions. That unfortunate event made our position a far more dangerous one. A widely spread number of new bases for submarines became available to the Germans. The occupation of Norway made it easier at the same time for commerce-raiders to slip out into the north Atlantic. Aircraft, too, could start from Breton aerodromes to meet and attack our merchant vessels off the northern coast of Ireland.

'We had to face the fact that Germany had a greater advantage in the matter of attack on shipping than she had in the last war', said Mr. Arthur Greenwood, Minister without Portfolio, in the House of Commons on November 27, 'but we did not believe that it was beyond our power to counter the menace of the U-boat and the aerial torpedo.'¹ The situation had undoubtedly deteriorated at the time when he spoke as compared with what it had been six months earlier. The sinkings from September, 1939, to April, 1940, averaged about 40,000 tons a week. After the defection of France they mounted steeply and the weekly average for Sep-

¹ Lord Templemore, replying for the Government to Lord Strabolgi's motion in the House of Lords on December 11, also stated that the Government was confident that we should succeed in defeating the menace.

tember, October and November was over 80,000 tons. In one week in October—that ending on the twentieth of the month—they rose to the enormous figure of 205,781 tons. In the first week of December they were 101,190 tons. The average for the whole war, excluding the losses at Dunkirk, was by that time 63,192 tons a week.

It was well known, and indeed admitted by Mr. Greenwood, that our new building could not compensate for such a rate of loss. Mr. Hore-Belisha stated in the same debate that the ships under construction would not last fifteen weeks at the current rate of sinking. The position, Mr. Greenwood agreed, was disquieting: it was 'much like April 1917' and 'far worse than it should be'; a very grave admission from a responsible Minister.

Mr. Churchill was perhaps a little less alarming when he reviewed the war situation in the House on December 19, but he, too, spoke with gravity of the position. 'The sinkings in the Atlantic', he said, 'still continue at a very disquieting level; not so bad as in the critical period of 1917, but, still, we must recognise the recrudescence of the danger which a year ago we seemed to have mastered. We shall certainly increase from now on our resources in flotillas and other methods of defence but we must regard the keeping open of this channel to the world against submarines, and the long-distance aircraft which are now attacking, as the first of the military tasks which lie before us at the present time.'

The Position in April, 1917

The position was not, indeed, as bad as in April, 1917. In that month the loss of shipping amounted to the colossal total of 853,000 tons. Admiral Sims of the United States Navy has left it on record that he was shown documents of our Admiralty at that time 'disclosing the astounding fact that, unless the appalling destruction of merchant tonnage which was then taking place could be materially checked, the unconditional surrender of the British Empire would inevitably take place within a few months.'¹ He also quoted the American Ambassador in London, Mr. W. H. Page, as saying: 'What we are facing is the defeat of Great Britain.'² We were saved from disaster then by the adoption of a system of convoy, which had previously been condemned by high naval authorities on the ground that merchant vessels would not be able to keep station and that the assemblage of shipping would attract the submarines. The former of these objections was soon proved to be unfounded, the avoidance of any straggling being a surprising and pleasing feature of the convoying experiment, but the other objection appears in the present war to have been shown already to have some substance in it. Submarines operating in large numbers have been able, it seems, to stalk and attack convoys despite the efforts of the escorting destroyers. The large convoys are an easier quarry, too, for the aircraft, which have a better chance of scoring a hit in such circumstances than

¹ Admiral W. S. Sims, *The Victory at Sea*, p. 4.

² *Ibid.*, p. 8.

when a single ship, armed with an anti-aircraft gun, is the target. The disabling of the *Empress of Britain* by air attack on October 26 and the subsequent sinking of that vessel, apparently as the result of submarine attack, brought home to us all the reality of the double menace to our shipping. The loss of the use of the ports in Queenstown Harbour and at Berehaven has made our difficulties in meeting that menace the more acute. To this disadvantage was added the further one that, with the occupation of Denmark, Holland, Belgium and northern France by the Germans, our imports of foodstuffs had to be carried for far greater distances by sea than in the last war.

Evidence of the store which Germany sets upon the interruption of our maritime commerce was afforded by her reaction to a proposal made in mid-December. The proposal was that a number of merchant vessels which belonged to countries occupied by Germany and which were tied up in American ports should be requisitioned by the Government of the United States and then leased to or otherwise placed at the disposal of British shipping companies. The German News Agency warned the United States on December 21 that agreement to any such arrangement would be regarded as a hostile act. An official spokesman in Berlin complained at the same time of America's failure to maintain a really neutral attitude to the belligerents in this war; to one she had shown herself to be consistently sympathetic and helpful, while on the other she had heaped insults.

The Mining of our Tideways

It has not been only by attack on our shipping on the high seas that the Germans have sought to enforce the blockade of Britain. Mines have been sown with great pertinacity in our coastal waters round our shores. The sowing of mines by aircraft has been a new feature of the war of today. During the weekend November 18-20, 1939, ten ships, of which six were neutral, were sunk by mines which were thought at first to have been laid by submarines. They were subsequently discovered to have been deposited by aircraft. An antidote to the new plague, the magnetic mine, in the shape of an electrified cable carried round the ship's circumference, was soon found, but losses continued to be incurred by British and neutral shipping in the approaches to our harbours and also by the mine-sweepers whose unceasing labour alone made it possible to keep the traffic channels open.

Air Attacks on our Ports

Air attack on our ports has been another form of the German attempt to strangle our trade. The docks along the Thames, on the Mersey and in the Bristol Channel have been repeatedly raided. Southampton, Portsmouth and Plymouth have also been attacked; so have Brighton and Bournemouth, both of which the German High Command apparently believe to have harbours. In all instances the main impact of the attack has been felt by the civil population of the town in question and the damage to our ports or harbours concerned has not been serious.

The counter-measures which we have taken have naturally devolved mainly on the Navy. The unceasing vigilance of the light units of our Fleet, and of the larger warships in the hunting of the commerce-raiders, has been our constant safeguard against a peril which might spell disaster. The Royal Air Force, too, has played its part, not only in the form of the patrol-work carried out by the Coastal Command, but also in the shape of attacks upon the dockyards in which the U-boats are built and the naval bases from which they operate.

Destruction of U-boats by the R.A.F.

Submarines have been engaged and destroyed or damaged by our aircraft on a number of occasions. An aircraft of the Bomber Command made a direct hit on one in the Schillig Roads on March 4, 1940, and just a week later, on March 11, another bomber scored a similar success. Both the U-boats attacked were believed to have been sunk; the second one, after a 250 lb. bomb struck it, was seen to have its bow and stern out of the water, the centre part being submerged. The Sunderland flying-boats of the Coastal Command have also a number of sinkings to their credit. On January 30 one of them sank the U-boat which had just torpedoed the steamship *Vaclite*. On July 17 a Sunderland of the Royal Australian Air Force, attached to the Coastal Command, sank another in the South Atlantic. In each of these instances survivors were rescued and there was therefore no possibility of doubt about the success of the flying boats. Another very remarkable encounter

took place about the beginning of October, when one of our Sunderlands blew a U-boat out of the water. It has been graphically described by the captain of the flying boat. He said:

'The weather was pretty thick, but my second pilot spotted the U-boat about three hundred yards on our port side. We could just see part of its conning tower. It began to submerge at once, and by the time we had reached the spot it had completely disappeared. As we passed over the swirl left by the submerging U-boat we let go a salvo. I at once made a steep turn to come back—so steep that the crew were thrown all over the place.

'The bombs had apparently got just under the submarine before they went off. It was terrific. The whole of the surface of the sea seemed to shudder for yards around, and then suddenly blew up—whoomph! In the middle of all the foam the submarine was lying tilted over a little, with its decks awash. It sank again before we got back, but we turned and dropped another salvo plumb in the middle of the patch of foam.

'Up came the U-boat once more, but this time it rocketed out of the water at such an angle that we could see daylight between it and the sea. It seemed to stay poised for a moment, then slowly went down. I made a quick climbing turn, came back over the place and dropped a third salvo, just to make sure. If a *coup de grâce* was needed, that supplied it. Huge air bubbles came rushing up—one was a good thirty feet across—then came masses of oil. The whole thing was over in a minute and a half.'

Our Raids on the Shipbuilding Yards

Our bombers, too, have raided the shipyards in which the German submarines are constructed. The Blohm and Voss shipyards at Hamburg have been attacked more than once. On one occasion five U-boats which were under construction there were so damaged that they were rendered unserviceable. The Krupp (Germania) yards at Kiel, and the Stettiner Oderwerke at Stettin, which also build submarines, have been attacked on several occasions. So have the yards of the Deutsche Schiff und Maschinenbau A.G. at Bremen, the Marinewerft at Wilhelmshaven, and a factory at Mannheim which constructs submarine engines. Both the Bomber Command and the Coastal Command have raided on many occasions the submarine base at Lorient on the Bay of Biscay, and the base at Bordeaux has also been attacked.

Our Air Attacks on France's Western Aerodromes

Air attack upon our shipping in the Atlantic has similarly been countered by the raiding of the bases from which the long-range aircraft used for this purpose take off. The aerodrome at Merignac, near Bordeaux, from which the Focke-Wulf four-engined bombers start to patrol the outer shipping lanes, was heavily attacked on the night of November 22. Not only the hangars and barracks but a number of aircraft on the ground were wrecked. The crews of our bombers could see the German machines blazing on the ground below them, while the barracks and hangars went up in flames. 'We circled round

and watched this terrific blaze,' said the pilot of one of our aircraft. 'After a few minutes it was less violent but instead a steady fire was burning which we could still see when we were fully fifty miles on our way home.' Looking back, an observer described the hangars as 'great skeletons with their ribs silhouetted against the fires glowing within'. So intense and continuous was the attack that even the anti-aircraft gunners appeared to lose heart. 'It looked as if they just gave up hope of beating us off,' said a pilot. 'We must have left the place a hideous mess,' was another pilot's verdict on the raid. 'There can be no doubt', said the official report, 'of the overwhelming effect of the attack.'

The Vital Importance of Breaking the Blockade

The mutual blockade imposed by the belligerents upon one another in this war is a curious and indeed unique phenomenon. There has been no real parallel to it in earlier wars. The attempt made by Napoleon to cut off our trade with the continent of Europe in the first decade of the last century was in principle not dissimilar from the German effort of 1940, and the depredations of his *lettres-de-marque* were comparable to those of the modern U-boats and commerce-destroyers, in purpose at least. He never had at his command, however, the devilish instruments of destruction with which science has armed his successor. The use of those instruments is the more dangerous to us today for another reason. We are more dependent in 1940 upon sea-borne supplies and the *matériel* for our war effort than we

ever were in the Napoleonic period, and for that reason the menace to our maritime communications is a far graver one than it was at that time. In some respects, indeed, blockade is a more damaging weapon when wielded by Germany against us than in the converse case. The success of her attempt to close effectively the paths along which our sea-borne traffic flows would mean inevitably starvation and defeat for us. For that reason, among the calls made upon us for the defence of our island citadel, this is the most imperative and vital of all. Nothing in this war matters in comparison with the safeguarding of the ocean routes by which our commerce comes and goes—the commerce that is a matter of life and death to us.

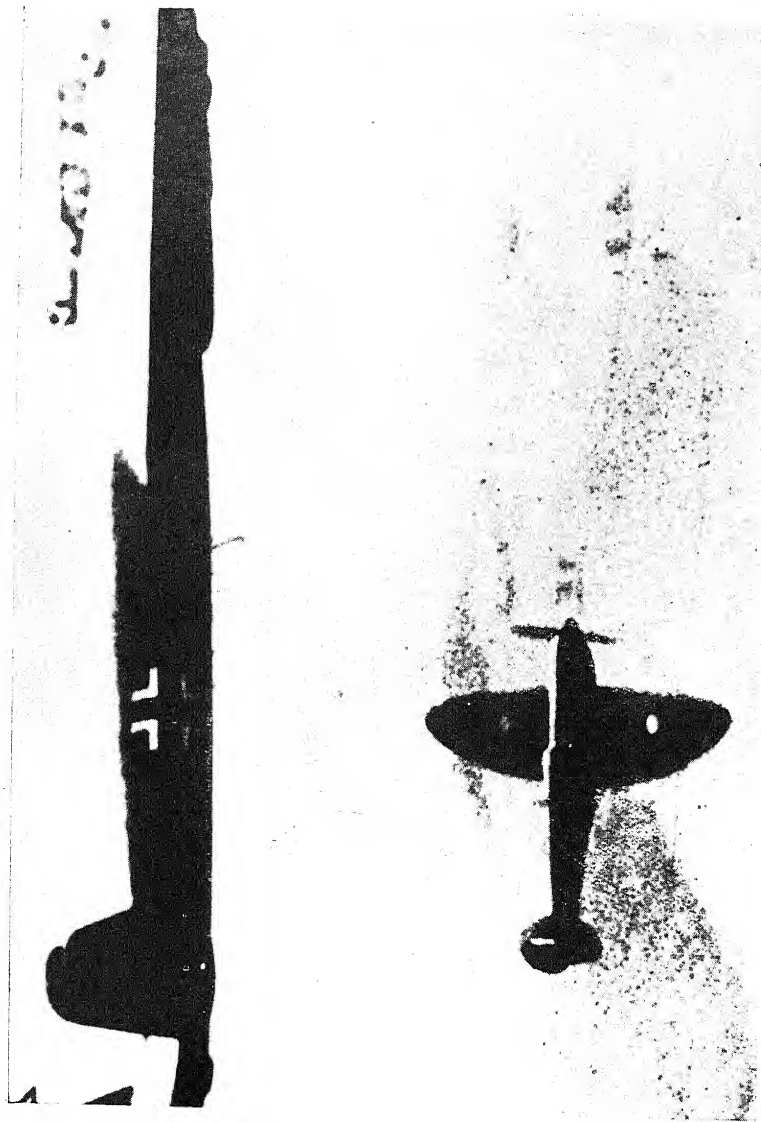
Meanwhile, everything possible is being done on the home front to ease the strain upon our shipping resources. Imports of all non-essential commodities have been cut down drastically and will be reduced still more. Rationing has been applied to various forms of foodstuffs and will be extended to others. The increase in the home-production of food, already considerable, will be still more pronounced in 1941. The women's land army is being recruited on a larger scale. Digging for victory is more than ever the slogan and the war-cry throughout the country. The nation has made up its mind to accept the restrictions and sacrifices and to shoulder the burdens which are necessary if the Nazi attempt to starve us into surrender is to be defeated.

So far, we have kept our life-line unbroken. The future alone can tell whether we shall succeed in

keeping it unbroken to the end. No effort, we may safely assume, will be spared by our Government to defeat and bring to naught the tremendous, concentrated assault upon our convoys which has already begun and which is likely to be intensified in the spring of 1941. Lord Lothian in his last speech (read for him on December 11) warned his American listeners, and the world, of the coming danger.

Lord Lothian's Warning

'Hitler', he said, 'has lost the second round of the war. But we think he is certainly going to renew the attack on Britain with all his might this winter and spring. This time he is going to concentrate on the sea. He has failed to overwhelm us in the air and we are sure he will continue to fail while with your help our power to hit back with our bombers will steadily increase. But he is building submarines and long-distance 'planes with all his might and main with which to bomb convoys and announce their location to submarines. He will base them on all ports and aerodromes along that line which runs like a vast semicircle round Britain from Narvik down the northern and western coasts of France to Spain. He will have two new 35,000-ton battleships, *Tirpitz* and *Bismarck*, and other vessels in the North Sea early next year. With these he will try to deliver a knock-out blow to our communications so as to prevent us getting the food, raw materials and aeroplanes necessary to enable us to continue the war at full strength. Today, since the disappearance of the powerful French Navy, we are fighting alone.



HUNTER AND QUARRY

A Spitfire banks for attack below a Dornier 215 bomber

Keystone Press Agency Ltd.

THE BLOCKADE OF BRITAIN

Our Navy, therefore, with the tremendous tasks which rest on it, none of which it has shirked or evaded, is strung out terribly thin.'

This situation, said Lord Lothian, was one which concerned the United States almost as much as Great Britain. The defeat of the totalitarian Powers' attack and the keeping of the Atlantic impregnable meant security for both the great democratic States. The grand attack is still to come. If only we can beat off that attack, then our own blockade of Germany, combined with our air offensive against her sources of production and means of distribution, should reduce her to a state in which the splendid mechanised army now being created will be able to administer to her the *coup de grâce*. That our blockade is already producing a serious effect upon her capacity for making war there is very little doubt. Dr. Dalton, the Minister of Economic Warfare, stated in his broadcast to America on December 1 that the cutting off of Germany's sea-borne supplies of oil and the destruction by the Royal Air Force of her synthetic oil plants, refineries and stocks would bring about a great and growing scarcity of this vital commodity within a period of months. The blockade, he added, has already imposed upon her serious shortages of rubber, copper, ferro-alloys and textiles. The Battle of Britain, so far as it is a battle of defence of this island, will have been won when Germany is effectively deprived of the materials without which her offensive by sea and air cannot be maintained with the continuity and intensity necessary to bring us to our knees.

When that stage is reached the Battle of Britain will give way to the Battle of Europe; the Battle of Africa will have been won, we may expect, before then. It will be the beginning of the end. The safety of our home-base assured, the channels safeguarded by which the enormous supplies of American aircraft and other armaments then accruing to us can reach us in a steady, swelling, deepening, broadening flood, no possible issue to this conflict is conceivable save one: victory for us, victory, too, for all the peace-desiring peoples of the world.

CHAPTER VI

The Slaughter of the Stukas

The Junkers 87B or Stuka

The Stuka—the Junkers 87B—was to Field Marshal Göring a variety of incompatible things, a bundle of odds and ends of mixed-metaphorical concepts. It was his chosen instrument, his trump card, his *arcanum vincendi*, his secret weapon,—and finally, his evil genius, or, alternatively, the will-o'-the-wisp which lured the *Luftwaffe* to disaster. By means of it the German air arm, co-operating with the tanks, smashed a way into and through Poland, Holland, Belgium and France. It had already proved its value in Spain in 1936-37. That had been its testing ground. It confirmed in the campaigns of September, 1939-June, 1940, the favourable impression which it had created three years earlier. If it had had the good fortune to stop there it would have been assured of a high place in the roll of honour of the outstanding aircraft that have left their mark on military history. It had been fortunate in its day, but, unfortunately, its day went on too long.

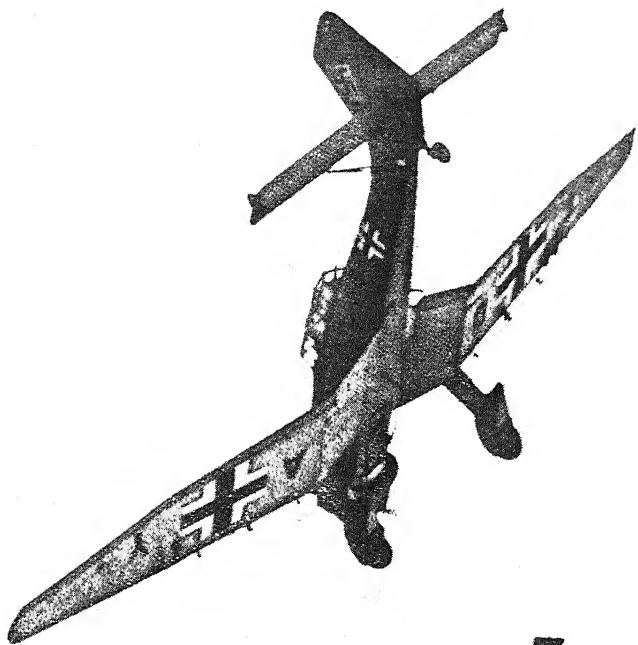
The harnessing together of the Junkers 87 and the tank or armoured car was one of those happy experiments in juxtaposition of which there are instances to be found in all spheres of human activity.

Indeed, it is to the linking-up of existing things or devices or ideas rather than the invention of anything absolutely new that we owe many of the most notable and useful advances in the arts of peace and war alike. This was but one of a score of examples which could be quoted in support of that general statement. The Stuka and the mechanised vehicle on the ground were not necessarily or obviously suited to be stable companions, yet they pulled splendidly together. So well did they do in company that they were largely responsible for putting Germany on the top of the world in the summer of 1940—for a time.

Yet the Junkers 87 was a poor specimen, as aeroplanes go: poor aerodynamically as well as from the military point of view. None of the experts has had a good word to say for it; most have spoken of it with a certain amount of scorn. It could only do one thing, but that one thing it could do, in favourable circumstances, superbly well, and it was—in those circumstances—the thing that mattered most. It could dive like a gannet.

Mass-production of Stukas

Junkers 87 dive-bombers were turned out in their thousands by a number of German aircraft factories before the war and after it had begun. They were originally produced by the Junkers Flugzeugbau und Motorenwerke at Dessau; at a later date manufacture of them was undertaken by the 'shadow' factories of the Weser Flugzeugbau company at Bremen—the largest aircraft works in western Ger-



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THE STUKA RELEASES ITS BOMBS

A Junkers Ju 87 is seen just after releasing its bombs in a diving

many. Here the Junkers 52, the troop-carriers, had been built for some time; it was this machine which, more than anything else, enabled Germany to occupy Norway in April, 1940. Other factories around Bremen were also given up to the construction of Junkers 87's. Very great numbers of them were undoubtedly in existence by the summer of 1940; it has been reported that 10,000 or more have been produced in all. They must have constituted a substantial proportion of Germany's total air strength in the first year of this war. Indeed, they probably do so still.

The Vulnerability of the Junkers 87

The Junkers 87 is a single-engine monoplane with no great range or bomb-carrying capacity. It can take a total load of 700 kilograms of bombs—four of 50 Kg. and one of 500 Kg. It is essentially a bomber designed for tactical work in the field. Its specialised role is army co-operation. It relies to a great extent on its moral effect. Hurling down out of the sky on a column of troops or a line of trenches and releasing its bomb at the bottom of its dive, it has unquestionably a most demoralising effect upon *personnel* not accustomed to its technique and not stout-hearted or sternly disciplined to a degree sufficient to enable them to discount its terrors. Actually, against troops who will stand up to it, it is about the most vulnerable bomber in the world and the most easily shot down from the ground.

That last fact had been established, indeed, be-

fore the Battle of Britain began. Not only were the Junkers 87's shot down in large numbers by our fighters at Dunkirk in the air battles of the end of May, eighteen of them being destroyed by a single squadron of Defiants on May 29, but a good many were also brought down by fire from the ground. Indeed, it was reported that a British Army cook who had never handled a machine-gun before used one to such good effect at Dunkirk that he accounted for four of the dive-bombers.

Stukas in the Battle of Britain

It was, nevertheless, the Junkers 87 upon which the German High Command relied at first to smash our defences in the Battle of Britain. It was first to wreck our shipping and ports and our air bases in south-east England and then to assist the ground forces which were to be landed to complete our overthrow. The opening chapter of the story of the Battle of Britain is to a great extent the record of the disasters which the Stukas suffered in this attempt. Other bombers were used, too, in the attacks on our vessels, ports and aerodromes—Junkers 88's, Heinkel 111's and Dornier 17's and 215's—but the Junkers 87 was used most of all. A number were shot down in July, but it was the month of August which witnessed the veritable slaughter of the Stukas. In the air battle in the Channel on July 29, thirty Junkers 87's, escorted by fifty Messerschmitt fighters, were routed by our Spitfires and Hurricanes, which shot down eight of the Junkers and four of the Messerschmitts in the space of half an

hour. They were not the only Stukas which fell to the guns of our fighters on that day.

They had another bad day in the air battle above the Channel on August 8. Our fighters brought down twenty-four of them, as well as thirty-four Messerschmitt fighters. One Hurricane squadron destroyed no less than twenty-one enemy aircraft on that day—the biggest bag recorded in home defence—and many of these were Stukas. Two were brought down, remarkable to relate, by a Flight Lieutenant whose engine had failed. He dived, nevertheless, on a Junkers 87, and, after a short burst of fire, it went into an inverted dive and crashed into the sea. Then the engine—encouraged, one must imagine, by this success—started up again, and the pilot turned his Hurricane to attack another Junkers 87 which was just about to dive on the convoy. It, too, was sent crashing into the sea. That was apparently all that the engine was prepared to do for the day; having accomplished so much, it went on strike ‘for good’ and the pilot only just managed to land in a neighbouring aerodrome.

The Stukas' Days of Disaster

On August 13, in the Southampton area, a single squadron of Spitfires shot down nine Junkers 87's and four Messerschmitt 109's in the space of a few minutes. More were destroyed on the following day, and the day after that, August 15, was a disastrous one for the Stukas. Patrolling over the sea at 15,000 feet, eleven Hurricane pilots sighted twenty Junkers 87's about 3000 feet below. They swooped down on

the enemy formation and broke it up. Only four of the Junkers broke through to the coast; ten were destroyed by our fighters and four were damaged. Next day (August 16) a squadron of Hurricanes caught a formation of Junkers 87's attacking a neighbouring Royal Air Force aerodrome and shot down eleven of them, in addition to damaging and probably destroying some others. Two days later, on August 18, a squadron of Spitfires dealt as faithfully with an escorted formation of dive-bombers which had the hardihood to try to bomb their aerodrome in Surrey; they destroyed six of the bombers and five of the fighters. At just about the same time a Hurricane squadron in Hampshire was carrying on the good work by shooting down six Junkers 87's and two Messerschmitt 109's. In the battle over Portsmouth on the same day three Blenheims of the Coastal Command showed that they, like their comrades of the Fighter Command, could master the Stukas. They fell in with a formation of twenty Junkers 87's protected by nine Messerschmitt 109's. The odds, it will be observed, were about ten to one, but the Blenheims promptly attacked and shot down two of the Junkers and damaged a third, which was then finished off by a Spitfire squadron. The latter squadron itself destroyed ten Junkers 87's and a Messerschmitt fighter. Altogether, 161 dive-bombers—the Air Ministry Bulletin giving this figure does not distinguish between Junkers 87's and 88's, but the great majority were certainly Junkers 87's—were destroyed in the week ending August 18.

The Anti-aircraft Gunners' Successes

It was not to the fighters alone that the Stukas fell victims in their incursions in August. The ground defences of all kinds had their successes, too. 'Anti-aircraft gunners have had a record week,' said an Air Ministry Bulletin (No. 1409) of August 17. 'Since last Sunday morning (August 12) they have shot down fifty-seven German bombers and fighters. Nearly half of this week's bag was claimed in one day; Thursday, the 15th, the day the Germans made their big attack on our shores. It is now certain that twenty-two of them were destroyed by anti-aircraft fire. They helped to make up the fine total of 180 enemy aircraft destroyed on that day. . . . Heavy guns, medium guns and Lewis guns have all claimed their victims. The crews of the big four-point-fives have watched their shells marking the sky with white puffs round almost invisible Junkers and Dorniers. They have seen German airmen floating down by parachute. The quick-firing Bofors guns have caught Junkers 87 dive-bombers on their downward swoop and made them end their dive in flames. And for the first time the Lewis gunners' searchlight posts have had their revenge on the raiders who have so often sprayed machine-gun bullets down their searchlight beams. Lewis gunners in the Isle of Wight described how they tricked a Junkers 87 which was diving low over them on its way to bomb an objective farther ahead. They waited, metaphorically speaking, until they could see the whites of the German pilot's eyes, and then they let him have it. The Junkers crashed just beyond them.'

The Junkers 87 Withdrawn in the West

The losses which the Stukas incurred on August 18 led to their disappearance for a time from the ranks of the raiders. The next big raid, that of August 24, when about 800 enemy aircraft were launched against this country, saw many of the twin-engined dive-bombers, the Junkers 88's, over our shores, as well as Dornier 17's and 215's and Heinkel 111's; one finds no record of the participation of any Junkers 87's in that raid. In the week August 25 to 31, 293 enemy aircraft were shot down. They were analysed as follows by the aeronautical correspondent of *The Times* (September 2, 1940): six Dornier 215's, twenty-one Dornier 17's, eighteen Heinkel 111's, twenty-eight Messerschmitt 110's, two Junkers 88's and nineteen bombers of unspecified types, the balance being made up of single-seater fighters (Messerschmitt 109's and Heinkel 113's) and multiple-crew bombers and fighter-bombers. No mention is made of Junkers 87's; a few may have been included in the unspecified types, but it is remarkable that, after the great use which had been made of them previously, they should now no longer appear in any recognised category by name.

Stukas Re-appear in November

One or two Junkers 87's were shot down in early September but it was not until November that they re-appeared in any numbers round or over our coasts. On November 1 a few of them, with some Junkers 88's, attacked a convoy off the Thames

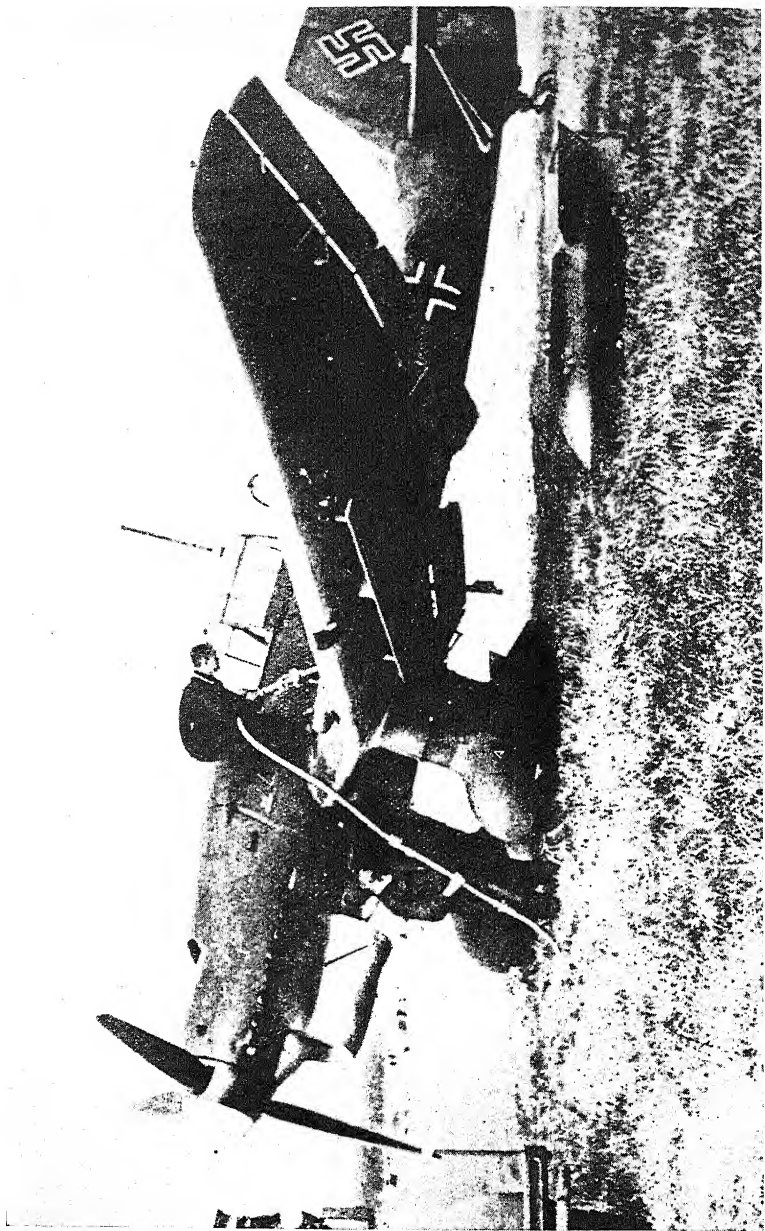
Estuary; nine were shot down, two more falling to the fire of naval guns. On November 7 fifteen Junkers 87's were encountered, again over the Thames Estuary, by a Hurricane squadron, with a formation of protecting Messerschmitt 109's above them; a pilot officer, a former bank clerk from Manchester, shot down one of the Junkers 87's and then, when he was attacked by the Messerschmitts, two of the latter also; two other Messerschmitts were destroyed by two sergeant pilots of the same squadron. Next day (November 8), a formation of twenty-five Junkers 87's were caught by No. 17 squadron (Hurricanes) while attempting to dive-bomb ships; in a battle which lasted just over five minutes fifteen of them were destroyed without the loss of a single British machine or pilot. Six more were probably destroyed and two others damaged, so that only two of the twenty-five escaped scot-free. It was the best performance accomplished by any squadron in one combat since August 16, when a Hurricane squadron destroyed eleven Junkers 87's for certain and probably six more as well. The pilots who destroyed the fifteen on November 8 were just beginning their tea when the order came to take-off. They were back to finish the meal within thirty minutes, having meanwhile wiped the formation of dive-bombers off the map. They did it so expeditiously that the escorting masses of Messerschmitt 109's which were flying high above the Junkers had no time to intervene. Three days later the Messerschmitts escorting a formation of Stukas did succeed in coming to the rescue of the latter when our fighters swooped on

them. The result was that four of the Junkers 87's and six of the Messerschmitts were sent crashing into the sea in a brief encounter. The Germans lost thirteen aircraft that day and the Italians thirteen also—and we lost two fighters, both against the Germans. (It was the first occasion on which the Italian aircraft had ventured into our coastal waters, and a very unhappy one for them.)

A further disaster for the Stukas occurred on November 14. On that day more than forty of them tried to dive-bomb Dover harbour; fifteen of them were destroyed by our Spitfire pilots. One squadron of twelve Spitfires shot down thirteen of the Stukas; one pilot of the squadron alone disposed of three of them. Two of the escorting Messerschmitts were destroyed also. We lost only two machines and the pilots of both were saved. By the end of November our pilots and anti-aircraft defences had destroyed more than half the total number of Junkers 87's used against our shores and shipping. Never has any type of aircraft suffered such a cruel hammering.

Junkers 87's in Albania

Towards the end of November the Stukas seem to have appeared in the Greco-Albanian theatre of war. Some reports of that time mentioned dive-bombers of German type, and on December 23 a message from the Yugoslavian frontier stated specially that Junkers 87's had been seen in operation in the Pogradets area. They made a successful appearance a little later, on January 10, 1941, in the Sicilian Channel, where, using bombs of heavy



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THE STUKA FEEDS

A Junkers 87 dive-bomber being refuelled

calibre, they attacked our naval forces and succeeded in damaging the aircraft carrier *Illustrious* and the cruiser *Southampton*. The latter was set on fire and had subsequently to be sunk by our own forces. They also caused some damage to Royal Air Force and other property in Malta a little later, but suffered heavy losses in these raids. Possibly they may fare better in the Mediterranean than they did in the west. Employed on a sufficiently large scale and without regard to the certainty that a high proportion of them will always be shot down, they have their contribution to make to the success of combined operations, especially against forces which are not very highly mechanised. Against a belligerent who is strong in the air, they are simply fighter-fodder. No commander but one who is prepared to treat his dive-bombers, with their crews, as consumable stores and to sacrifice them wholesale, as the German High Command did in August, is likely to favour their employment against a well-equipped enemy. They are essentially the weapon of the *Blitzkrieg* in its highest, and lowest, form—the sudden, treacherous, overpowering blow of the bully at a weaker, unprepared, half-armed enemy.

The Junkers 88 as a Dive-bomber

The Junkers 87 is a very poor specimen of a machine as compared with dive-bombers, such as the Blackburn Skua, now in use in the Royal Air Force, and others which will soon be in service. As a 'ground-strafer' it is inferior in almost all respects to the Martin 167 W and the Douglas D.B.7

(‘Buffalo’) which we are obtaining in large numbers from the United States. No doubt the Germans, too, are preparing to put some improved type of dive-bomber into service. Meanwhile, they have been tinkering with the Junkers 88 to provide a substitute, and their doing so is in itself a proof of the disappointment which they have experienced in their use of the Junkers 87.

The Junkers 88 was a heavy bomber, never intended to be used for dive-bombing of the kind for which the Stuka was designed. It has two engines and a crew of four, as compared with the single engine of the Junkers 87 and crew of two. After the latter was handled so roughly by the Royal Air Force the Junkers 88 was converted in rather panic fashion into a dive-bomber. It was fitted with devices calculated to prevent it from exceeding the safety limit of speed when diving and to damp the flutter of the control surfaces which might otherwise develop in fast and steep descents. The result has not been very satisfactory.

In contrast with the Heinkel 111 K, states an aeronautical journal, the Junkers 88 is ‘surprisingly inferior.’ ‘It is a hotch-potch of a design, with many signs of additions to the original conception to cover weaknesses. It possesses none of the soundness of the Heinkel. It is cramped where the Heinkel is spacious; it is difficult of access where the Heinkel is easy; it is unorthodox where the Heinkel is severely ordinary. Yet it is poorly armed and carries no bigger load. Space and flying qualities have been sacrificed in the newer design for speed in the air

and speed of production. The Ju 88 is now primarily a dive-bomber, although it was not originally developed as such. The complications which dive-bombing involves have further hampered the designer. . . . In both the He 111 and the Ju 88 armour has been added (to the earlier, unarmoured type) and armament crudely increased by putting guns through side windows.¹

It would be unwise to assume that the Germans have not something better on the stocks than either the Junkers 87 or 88. They, no doubt, are looking ahead, as we are, too. The story of the Junkers 87 should not inspire us with a foolish optimism or complacency, but it does teach the lesson that even German efficiency is not proof against miscalculations.

¹ *The Aeroplane*, October 11, 1940, p. 403. The bomb-load of the Junkers 88 is four 250 Kg. bombs carried externally and sixteen 50 Kg. bombs stowed internally.

CHAPTER VII

The Counter-Offensive in the Battle of Britain

The Part of the Counter-Offensive in the Battle

The Battle of Britain is not being fought solely over this island and around its shores. Its theatre extends much farther afield. It is being waged far out on the high seas. It is being waged, too, over Germany and in all the countries which she has occupied. The blows which the Navy, the Fleet Air Arm and the Coastal Command of the Royal Air Force aim at the U-boats or surface raiders, those which the Bomber and Coastal Commands strike at targets within Germany or the territories or waters which she controls, are all as truly activities of the Battle of Britain as are the actions, visible to us at home, in which the Fighter Command's machines grapple with the enemy's raiders in the sky over and around our own country or the anti-aircraft gunners engage them from the ground. All alike have the same purpose and contribute to the same end, the defeat of the attempt to subjugate Great Britain here at home. That attempt is foiled not only by the destruction of the enemy bombers when they come here but also by the hammer strokes which our own bombers

deliver against the bases from which they start and at all the sources of the Nazis' war strength.

The counter-offensive conducted by the Bomber and Coastal Commands can be regarded as the positive and aggressive translation into action of the principle of home defence of which the work of the fighter squadrons and the anti-aircraft batteries is the negative (in no derogatory sense) and more obviously defensive counterpart. At some stage in this war we shall pass to the general offensive; we have done so already in North Africa. All three arms of the service will then go forth to overwhelm the enemy around, on and over his own shores. At present we are on the defensive. That is inevitable so long as we are inferior to Germany in numbers and in weight of armaments. When we are equal, or, in equipment, superior—as we shall be now that America is our arsenal—we shall carry the war over the enemy's frontiers by land as well as by air. We are doing so by air already, but our operations, though offensive in appearance, are essentially defensive in purpose. Their purpose has been, and must continue for some time to be, to reduce the volume of the attack which the enemy can bring to bear upon us.

The Policy of the Counter-Offensive

Reference has been made in Chapters IV and V to the counter-offensive which we have maintained against the enemy's potential invasion ports, his submarine bases and constructional facilities, his shipbuilding yards, and the aerodromes from which

his long-range aircraft start to raid our shipping in the Atlantic. That particular kind of counter-offensive has been but a part of a general one aimed at crippling his aggressive war-potential. The objectives attacked for this purpose have varied necessarily with the military situation. One kind of target has sometimes to be singled out for attention and others have to be neglected for the time. The latter have their turn later. *All* the possible targets that might be attacked cannot be dealt with simultaneously. Actually, our policy was to spread our attack as widely as possible during the autumn of 1940. In December we tended rather to concentrate on one or two objectives and to subject these to an intensive and repeated hammering; witness the raids on Hamburg, Cologne, Düsseldorf and Mannheim in that month. In general, our raids have undoubtedly caused more *military* damage in Germany than the German raids have caused in this country.

The Two Ways to Bomb

There are two ways of conducting an air offensive against an enemy's country. The first is easy, the second is difficult. The easy one is the sending of one's bombers to scatter high explosive and incendiaries indiscriminately in his towns, etc. That is all right if one does not care whether they land on residential districts, hospitals, churches, almshouses and small shops, the sole purpose being to undermine the *morale* of the enemy people. It is not, however, the way to win a war. 'You cannot scare great

nations into submission by destroying their capital cities,' said Marshal Foch in 1926. His forecast was confirmed in Spain. It has been confirmed in China. It is now being confirmed in Britain.

The second and difficult way is the bombing of selected military objectives. It is the scientific and profitable way. It *can* win a war, for its effect must ultimately be to reduce your enemy to impotence. You can disarm him at source. That is the root and the justification of the bombing of military objectives. But it is much the more difficult way. It demands a high degree of skill in the bombing crews and of precision in their instruments. It cannot be carried out with success if the crews are half-trained, the bomb-sights inferior and the methods of stowing and releasing the bombs crude. It is the less wasteful way. It does not result in a high proportion of the bombs being dumped on waste ground or open country. It deposits them where, so to speak, they will pay for their cost.

It is the second way which the Royal Air Force follow. The pilots, navigators, observers and bomb-aimers of that Force are probably the most highly trained in the world. The equipment is in all respects, first-class. The air crews are subject to the most strict operational orders in regard to the precise object of their sorties. They must not dump their bombs at random. Primary and alternative objectives are assigned to them and the exact position of each is most carefully mapped. There is nothing of chance-taking in British bombing methods. Military objectives alone are aimed at;

they are located with great care, and faithfully dealt with when found.

The Nature of Military Objectives

Military objectives are of many kinds. They include, besides the *personnel* and *matériel* of the armed forces and the barracks, depots, air bases, etc., in which these are housed or held, all the factories, workshops and establishments in which armaments are produced, repaired or stored. They embrace also the various means of transportation of the armed forces and their equipment, whether these be fixed, such as railways, strategic roads, bridges, canals, docks, etc., or mobile, such as rolling stock, ships at quaysides, barges designed for troop movements, etc. The plants which produce and process the liquid fuel, steel and metal alloys which are vitally important constituents of a nation's war effort today are naturally high in the list of military objectives. 'The destruction of the enemy's war potential' was the definition of the primary task of the Royal Air Force given by Lord Snell, replying for the Government to a motion by Lord Trenchard, in the House of Lords on October 16.

As already stated, *all* the military objectives that might conceivably be attacked cannot be attacked; as M. Rougeron showed before the war, no air force can ever be so strong that the whole field could be covered. There must be some selection. On what basis should it be made? The answer is that this depends upon the circumstances in which the question is posed. The most profitable targets will some-

times fall within one category, sometimes within another. The immediate crisis may call for concentration of attack upon one kind of objective; that passed, it may be more advantageous to switch the attack to a different kind. The postponement of long-range raids may be necessary if support has to be lent to a field army in the battle zone. The enemy's lines of communication in the rear of his advance may have to be given precedence, as an objective, over possible targets in his homeland. The latter may come more prominently into the picture at a later date.

The Royal Air Force and the Army

Our own bombers, both those of the Advanced Air Striking Force and of the Bomber Command, had of necessity to lend all possible assistance to our own and the French armies during the period covered by the battles of Flanders and of France in May and June. In the Air Ministry Bulletins issued during that time one reads repeatedly of bombing attacks, by day and night, upon armoured columns, supply columns, troop concentrations, roads, railways, bridges, ammunition and petrol dumps in woods, and similar objectives in the rear of the German armies. Aerodromes from which his Junkers 87 dive-bombers operated were also a main target at that time. Our bombers struck hard at all these objectives. On June 10, for instance, they were in action, an A.M. Bulletin stated, all the way from the Channel coast to the German frontier, and on the following day, it was recorded, they dropped a

hundred bombs a minute in one ten-minutes' action. On the night of June 13, it was stated a few days later, they were bombing bridges, railways, road junctions, etc., over the whole area from the east of Rouen to the Maginot line. 'Dense traffic moving over the enemy's communication system,' an earlier bulletin had stated (May 22), 'was again heavily attacked during last night by large bomber forces of the Royal Air Force. The objectives included railway junctions, marshalling yards, and bridges over a wide area in Germany radiating eastwards from Aachen. Similar targets in the immediate rear of the battle area were also heavily bombed, notably roads and bridges across the Meuse in the region of Namur and Dinant.'

Even then, however, though our bombers' first task was to afford all possible support to the hard-pressed armies of the Allies, they were able to aim an occasional blow at the class of objective which began to absorb increased attention in the next stage of the operations. In the night of May 17, for instance, they bombed the oil storage depots at Hamburg and Bremen, a feat repeated by aircraft of the Coastal Command on the following night, when those of the Bomber Command raided the oil tanks at Misburg (Hanover). They bombed oil plants again on the night of June 3, 4 and 5 while the battle in France was still raging. They found time, too, to range farther afield and to strike at aircraft works in Turin and Milan on the night of June 11. In general, however, the role of our bombers up to the middle of June was ancillary to the operations of the Allied armies.

The Royal Air Force and the Navy

Its role became ancillary to that of the Navy at a later stage. One of the tasks of the Navy is to prevent an enemy from reaching the shores of these islands, to sink his transports, destroy any escorting warships and keep the moat of the narrow sea from being crossed, to our possible undoing. The danger of an invasion became evident in the autumn of 1940, and from that time, as the writer has shown in Chapter IV, the Royal Air Force maintained an almost incessant assault upon the 'invasion ports' in the Low Countries and in northern France. By their systematic hammering of the possible points of embarkation it probably wrecked the projected expedition before it could be launched.

The Bombing of Hamm and Other Objectives

It was after the collapse of French resistance on June 17 that the raiding of the interior of Germany began in earnest. The attacks of our bombers were restricted to military objectives, and even these were not bombed if the weather conditions were such that the hitting of the target was not reasonably certain. On many occasions bombers returned for this reason with their loads of bombs still intact. Usually, however, the objective was located and dealt with appropriately. Oil refineries and depots were the primary targets in this phase of the air offensive. The refineries and storage depot at Gelsenkirchen began to take a prominent place in the official reports of the raids. Indeed, they and the goods yards at Hamm—which were referred to as 'marshalling

yards' until Anthony Armstrong in *Punch* gave that term its quietus by describing imaginatively a massed assault or, alternatively, a dive-bombing attack by serried marshalling yards—figured so recurrently in the *communiqués* that one began to wonder what could possibly be left of them.

Actually, the bombing of Hamm had exceedingly wide repercussions throughout the whole of the industrial and commercial, and, it may be added, military, economy of Germany. The marshalling yards there are the largest in Europe. They are so huge that 'a dozen Clapham junctions could be lost among the vast network of tracks, sidings, engine houses and repair sheds which are capable of dealing with and despatching over 10,000 wagons every twenty-four hours. Its (Hamm's) importance as a target lies not only in its unrivalled working capacity but also in its geographical position as the eastern entrance to and exit from Germany's greatest industrial and manufacturing centre, the Ruhr.'¹ On Hamm wagons, loaded and empty, converge from all parts of the railway system, to be made up into trains and despatched to their various destinations. It is thus the nerve-centre of German rail transport, essential for the maintenance and re-equipment of the German armies in Holland, Belgium and France, and for the supply of raw materials and the distribution of finished products among industrial and munition factories throughout

¹ Air Ministry Bulletin (No. 1774) dated September 20, 1940. The other quotations in the paragraph are from the same Bulletin.

a greater part of Germany. 'Dislocation at this bottle-neck of transport, which occurs every time British raiders attack the yards, spreads like paralysis throughout the country and beyond. A single short interruption of night-work—when most of the assembling of trains is done—and within twenty-four hours the congestion at this already overtaxed yard will have made itself felt among German armies at the Channel Ports and at five hundred to a thousand factories and works in Germany. Moreover, marshalling yard congestion is cumulative and increases in geometrical progression, so that each successive dislocation adds to the chaos, slowing-up the turn-round of wagons, reducing their availability for loading, creating long hours of work and imposing severe strain upon the train crews.'

The Bombing of Oil Plants

If Hamm and Gelsenkirchen were the most frequently mentioned, they were by no means the only places which figured repeatedly in the *communiqués* telling of our raids. References occur again and again to the bombing of refineries and oil stocks at Hamburg, Bremen, Hanover, Frankfurt, Mannheim, Emmerich, Bottrop, Reisholz, Sterkade, Wanne-Eickel, Salzbergen, Magdeburg, in Germany itself. Objectives of the same kind, notably at Rotterdam, were attacked in Holland. When the oil tanks at Vlaardingen near Rotterdam were bombed by Blenheims of the Coastal Command in the night of July 20 the red glow in the sky was visible a hundred miles away. 'We just blew them to

blazes,' was a pilot's summing-up of the results of this raid. In France the refineries and oil tanks in the estuary of the Loire, at Nantes and St. Nazaire, in the Gironde estuary, at Bordeaux, Blaye and Bec d'Ambés, and at Cherbourg, were also bombed. The raid upon the oil refineries and tanks near Bordeaux on August 14 was particularly destructive. These installations on the banks of the Gironde are among the most important in France and the full use of them would have meant a valuable addition to Germany's war effort. They were largely destroyed by our bombers on the night in question. The refineries, with their housing, compressors, pipe stills, chimneys and buildings, and the great storage tanks adjoining the refineries, were reduced to a mass of blazing wreckage from which streams of burning oil could be seen pouring along the ground. The glare of the conflagration, fed by the exploding tanks, could be seen from our aircraft on their way home at a distance of 140 miles. In August, too, the length and strength of the Bomber Command's stroke were demonstrated by a successful raid upon the great plant of the I.G. Farbeindustrie at Leuna, which produces nitrogen and also hydrogenated petrol. At the beginning of September our bombers reached the oil plants at Politz, near Stettin, and those at Regensburg, on the Danube. The former of these, capable of producing over a million tons of motor fuel annually, are among the most important in Germany. They were attacked again on October 14, when the high explosives rained upon the target left a vast scene of devastation below—buildings

demolished, others completely gutted by fire, gaunt chimneystacks left standing alone, and over all a huge red glare covering a space of nearly a mile square.

The Destruction at Politz, Hamburg and Magdeburg

'The intention of the raid', said a bomber pilot who took part in the attack on Politz, 'was to make the oil last a very short time. I can say that the intention was carried out. . . . It was a blazing mass when we left.' The rear-gunner in one of our bombers which raided the docks and oil stocks at Hamburg on the night of October 24 summed up the result in graphic language. 'When we arrived there was a colossal fire burning. . . . It was the father and mother of all the fires I have ever seen.' The glow lit up the whole sky on that occasion, yet the destruction of the oil plants at Hamburg in the raids of November 15 and 16 was even more impressive. In one of these two big raids the largest fire the city had ever seen was left blazing. 'A beauty of a fire,' was a pilot's description of the blaze started at the works of the Braunkohlen Benzin company at Magdeburg on the night of November 1; it was reported to be 'at least half a mile long.' 'We could see it for sixty miles when flying home-wards,' said one of our airmen. One of those taking part in the raid kept on exclaiming: 'Oh, boy, what a fire! Pity the Londoners can't see this one!'

Germany's Heel of Achilles

'The synthetic oil plants of Germany', said an Air Ministry Bulletin of December 4 (No. 2434), 'are

in themselves evidence of unstable autarky; they would never have been built if she had not intended war and sought by such costly expedients to make good her lack of oil. They are very suitable targets for our bombers, and much of the plant is necessarily flimsy. It is satisfactory that the reports of our pilots should be confirmed by news of hits upon Leuna, where one of Germany's largest synthetic oil plants is situated. Germany's oil reserves have been destroyed in many other parts of the country. At Stettin, cisterns of aviation petrol blazed for three days; so obvious a catastrophe compelled the Germans to admit in their official *communiqué* that two of the cisterns were destroyed, but actually it is now known that many were burned.' The Bulletin also stated that it had been learnt from a neutral observer that the Pauillac petrol tanks near Bordeaux were blazing for three days after our bombers had raided them.

Oil, fuel and lubricating, is probably for Germany her heel of Achilles. A shortage may affect her war effort long before her supplies of food become so scanty as to cause material difficulty. She produces about two-and-a-half million tons of synthetic oil annually and forty per cent. of this is refined in western Germany, as compared with fifty per cent. in central Germany and ten per cent. in the east. Already her western refineries have been seriously damaged by our bombing raids,¹ and the central plants will re-

¹ By the end of the year the following firms' oil refineries and synthetic oil plants had been extensively damaged by our bombers, according to the various Air Ministry announce-

ceive more and more attention in the future. According to a statement made by Dr. Hugh Dalton, Minister of Economic Warfare, in a speech on September 21, and repeated by him in substance on December 4, the Royal Air Force have already 'hammered with devastating effect ninety per cent. of Germany's synthetic oil production and eighty per cent. of her oil refineries.' 'Germany's synthetic oil industry', said a memorandum issued by the Ministry of Information early in October, 'is being systematically smashed.' The blows aimed at it have increased in intensity since then. In one night (October 10) seven great oil plants were heavily bombed. These plants, an Air Ministry Bulletin stated, have a combined annual output capacity of nearly one and a half million metric tons. They are those at Grassbrook (near Hamburg), at Hanover, at Wesserling (near Cologne), at Merseburg (Leuna), at Magdeburg, at Gelsenkirchen, and at Reisholz (Düsseldorf). The fires started at the last of these plants could be seen that night from a distance of sixty miles. Italian oil

ments: Hydrierwerke Scholven, at Gelsenkirchen; Braunkohlen Benzin, at same; Gelsenbergbenzin at same; Ilse Bergbau, at Ruhland (near Düsseldorf); Union Rheinische Braunkohlen, at Wesserling (near Cologne); Rhenania Ossag, at same; Gewerkschaft Deutsche Erdöl, at Hanover; Braunkohlen Benzin at Magdeburg; Rhenania Ossag, at Reisholz; Bohlen, at Leipzig; Mitteldeutsche, at Lutzendorf (near Leipzig); Hoesch Benzin, at Dortmund; Krupp Treibstoffwerke, at Wanne Eickel; Klockner Wintershall, at Kاستrop Rauxel; Rhenania Ossag, at Hamburg; I.G. Farbenindustrie, at Leuna. Synthetic oil plants or refineries at Mannheim, Bottrop, Sterkade, Politz, Salzbergen, Emmerich, Kamen, Misburg, Ostermoor, Bremen, Frankfurt-am-Main, Homburg, and Regensburg have also been bombed.

supplies at Naples were also bombed with good effect early in November.

Every blow of this kind is as damaging to the *Luftwaffe* as if it were aimed at the German machines in the air. The estimated production of oil of all kinds in the countries under German control is about eleven and a half million tons a year; the consumption in the same countries is certainly not less than twenty million tons. No doubt the Nazis will wrest every gallon of oil that they can from the dominated countries, but they must leave enough for agriculture to be maintained, in their own interests. That fatal gap will be opened still wider by the strong arm of our Bomber Command in the months to come.

Raids on Enemy Aerodromes

Oil is not the only element of Nazi air power which is vulnerable at source. The machines themselves, made and in the making, can also be sought out and smashed on the ground. These have, therefore, been primary objectives of the Bomber Command, and hundreds of raids have been carried out against German aerodromes (including those in countries occupied by German forces), while aircraft factories have also been attacked on many occasions. 'Royal Air Force bombers dealt more blows at the German air force last night,' it was stated in an Air Ministry Bulletin of July 15. 'The chosen targets were the factories which build aircraft, the oil refineries which supply them with fuel, and the aerodromes from which they take off to raid

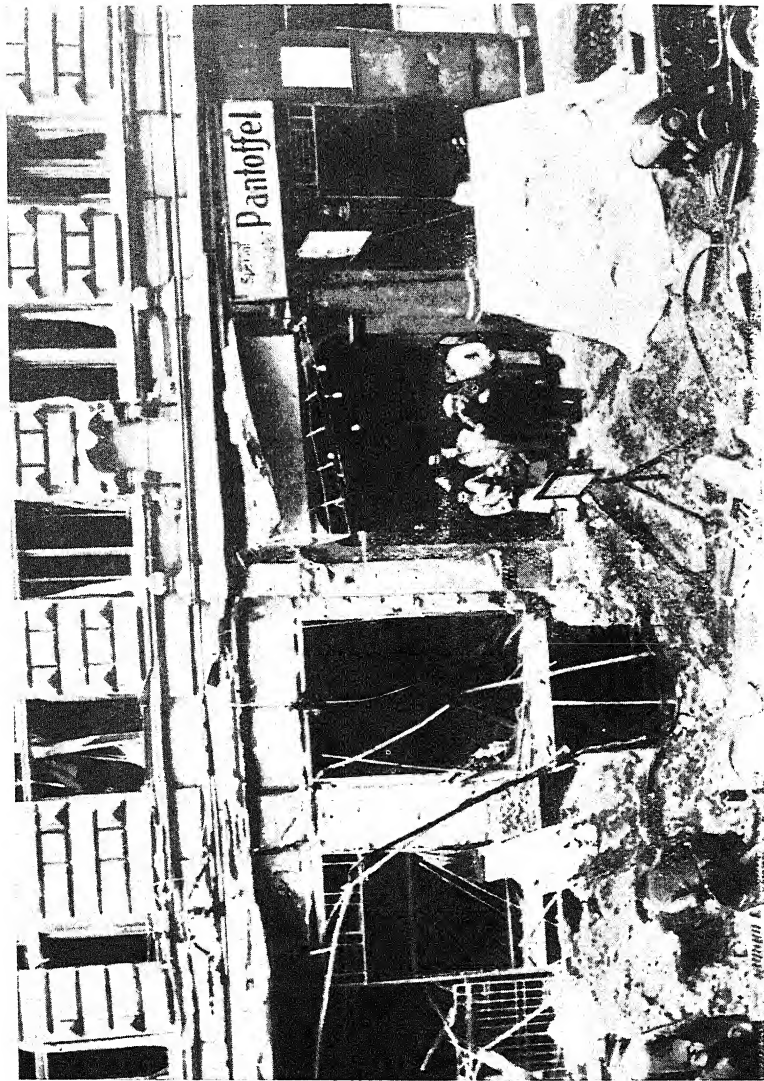
Britain's towns and shipping. . . . The success of these attacks is contributing effectively to a reduction in striking power of the German air force.'

The raiding of aerodromes began in June and thenceforward blow after blow was aimed at this class of objective, in Belgium, Holland, occupied France and Germany itself. Often more than a dozen were raided in a night. Twenty-two were attacked on the night of July 13, fourteen on July 25, seventeen on August 12, fourteen on August 15, twenty-seven on August 17, thirty on August 19, more than twenty on August 24, twenty-seven on August 26, fourteen on October 26 and again on October 27, nineteen on October 28, twenty-nine on October 29, sixteen on November 1, twenty on November 8, twenty-six on November 14. Specific figures are not quoted in the Air Ministry Bulletins for aerodromes raided in September, but there are references in that month to a number of such raids. A Bulletin of September 4, for instance, records that on the preceding night the Royal Air Force made a series of attacks on the advanced striking bases of the German air force in the Pas de Calais, at Le Touquet, St. Omer, Marck, Gaines and Abbeville. In some of the raids not only were hangars and other aerodrome buildings destroyed or damaged but aircraft on the ground were also wrecked. Thus in a raid of November 9 six aircraft were seen to be blazing fiercely on the ground at one aerodrome.

The immediate connection between our counter-offensive and Germany's air attacks upon this country was made apparent in an incident of one of

our raids on the night of November 20. Our bombers were conducting operations against aerodromes in enemy-occupied territory on that night, and one of them, of which Squadron Leader Jeffrey McDougall was the pilot and Sergeant C. H. Gray the air gunner, was approaching Amiens-Glisy aerodrome when they saw that it was illuminated for night-flying and that a large four-engined enemy aircraft was in the air above it. McDougall decided to attack the enemy bomber before bombing the aerodrome; he rapidly overhauled it, and Gray opened fire from close range. His first burst caused smoke to pour from one of the enemy's port engines. He then fired two long bursts into the fuselage, and the aircraft was seen to fall out of control and to hit the ground, where it exploded. McDougall then proceeded to bomb the aerodrome in the face of intense and accurate anti-aircraft fire.

On one night our bombers concentrated their attack on this class of target, neglecting other objectives. 'A powerful force of bombers', said the Air Ministry Bulletin of December 7 (No. 2460), 'was detached last night from the more usual task of raiding Germany's vital centres. They ranged far and wide over occupied France and the Low Countries in search of the aerodromes from which the enemy sends raiders to attack this country. Some aerodromes were attacked many times during the night in a number of sharp and sudden raids, while over others our bombers made prolonged circuits as they waited for the right moment to release their bombs.' One of the aerodromes bombed several



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OUR BOMBERS HAD PASSED

A street-scene in Berlin after a visit by our heavy bombers

times was Chateaudun, in the plain of Orleans. Many fires were caused here and at Melun, where a pilot could see fragments of buildings flying in every direction. Villacoublay was another repeatedly attacked, fires being started. At Chartres 'a spectacular explosion' was seen and 'an equally impressive fire' followed. A petrol store was set alight at Vendeville, near Lille. Both Le Touquet and Vitry-en-Artois aerodromes were machine-gunned from low levels, in addition to being bombed. Le Culot, Brussels, Harskamp, Ypenburg, Rotterdam, Trond and Eindhoven aerodromes were also successfully raided.

Raids on Aircraft Factories

Aircraft factories, too, were repeatedly attacked from the later days of June onwards. The Focke-Wulf factory at Bremen was the first, it seems, to be attacked, towards the end of June. The Dornier factory at Wenzendorff, near Hamburg, was bombed early in July, and at later dates as well, and so was that at Diechshausen (Bremen). The Dornier works at Wismar on the Baltic Sea were attacked a little later in August, and again on September 23, on which night also the B.M.W. aero-engine works at Spandau, near Berlin, were bombed. The Fieseler factory at Kassel and the Messerschmitt assembly plant at Gotha were the next to be visited. On August 13 the large Junkers factory at Dessau was successfully raided, as was also the subsidiary plant at Bernburg. A few days later the main Messerschmitt factory at Augsburg was bombed.

The Daimler-Benz engine works at Stuttgart was attacked towards the end of August. On the night of September 29 the Fokker aircraft factory at Amsterdam was bombed, and the operation was repeated on later nights.

Aircraft supply depots were also recipients of our bombers' favours. The aircraft depot at Paderborn in the Ruhr was raided four times in one week in mid-July. Aircraft stores at Diepholz (north-east of Osnabrück), Rotenburg (in Thuringia), Göttingen, Kolleda (north of Weimar) and Cologne were attacked in July, August and September. Particular mention may be made of the raid of September 28 on the factory at Hanau, which produces metal alloys for aeroplanes, etc. Meanwhile attacks on armament works, such as those of Krupps at Essen and the Skoda works at Pilsen (bombed on October 27 and again on November 19), on railway junctions, on canals (notably the Dortmund-Ems Canal), on chemical factories and blast furnaces were continued, and in September a new class of objective was added to the list, namely, the great forests in which western and southern Germany abounds. These forests, which were plentifully sprinkled with incendiary leaf-bombs by our aircraft, are not only valuable for the timber which they contain but are also the hiding places, here and there, of stocks of munitions of various kinds.

Attacks on Railways and Canals

The attacks on Germany's railway and canal communications have been especially sustained and

damaging. Reference to the effect of the repeated raids on Hamm has already been made, but they have not been the only such operations of our Bomber Command which have had results of a far-reaching effect upon Germany's industrial and military efforts. The attacks on the railways as a whole have led to the dislocation of the ordinary means of conveyance and travel, and in doing so they have imposed an additional strain upon Germany's oil resources. They have caused traffic to be diverted from the railways to the roads and have thus necessitated an increased demand upon the stocks, not too plentiful, of fuel oil. The successful attacks on the Dortmund-Ems Canal at the end of June, again towards the end of July, and yet again in mid-September, were particularly important for the same reason. This canal is the chief link for heavy transport between the Rhineland and north-west and central Germany, and had a capacity of four hundred train loads a day. The destruction of rolling stock has had the further result of making more difficult the transport of oil and other supplies from Roumania and Russia.

The raids upon the railway stations, sidings and goods yards in Berlin itself, and upon the power stations in the city, have seriously disorganised transport in the interior of Germany. The Pulitzstrasse, Lehrter, Schlesiſcher, Potsdamer, Anhalter, Stettiner and Tempelhof stations were damaged in the raids of the nights of October 7, 24 and 26, of November 1, 14 and 23, and of December 20. In the attack on the Pulitzstrasse and Lehrter stations on

October 26 the heaviest bombs yet carried into Germany were dropped and the damage done on that night was particularly severe. After the big raid on the night of December 20, one fire of half a mile in length could still be seen by our bomber crews when they were fifty miles away on their homeward flight. 'It was like looking at a fire in London from Brighton,' said one rear-gunner. An even more spectacular blaze was caused at the electricity supply station at Klingenburg on the night of November 1. The glow was visible a hundred and fifty miles away. An immense conflagration was started in the Charlottenburg railway station on the same night.

The Great Raids on Hamburg

Our bombers' assaults on the industrial and military targets in north-west Germany and the Ruhr and the Rhineland have been no less detrimental to Germany's war effort. No centre has suffered more severely than Hamburg, the second largest city of the Reich, with a population of nearly 1,200,000 people. In a Bulletin dated November 12 (No. 2243) the Air Ministry stated: 'Hamburg faces bankruptcy. Every report reaching London emphasises the growing effects of bomb-blight on this once great seaport. . . . Each new week swells the ranks of the workless and adds to depression and discontent. The docks no longer bustle with the rich trade which brought prosperity; the burnt-out shells of warehouses, the smashed wharves tell the tale of Hamburg's ruin'. New ships under construction had been

smashed. Aircraft nearly completed in the Blohm and Voss yards had been burnt out. 'The huge market halls near the docks which handle the entire fruit and vegetable supply for the city were destroyed in early attacks on Hamburg and the trade is still disrupted. Any oil tanks in the petrol harbour which have not been burnt out are useless because tankers cannot run the blockade and keep them supplied. Across the Elbe the biggest vegetable oil works in Germany stands blackened and gutted; the Phoenix works, making rubber tyre plant, have been demolished.' Damage to railways was so great that the journey from Berlin to Hamburg took twenty-four instead of the usual four hours and involved at least five changes. At the time of the Bulletin the city itself had hardly been affected, the damage being confined to the docks and industrial buildings. At a later date, however, the city began to feel the weight of our counter-offensive, too.

The raid of the night of November 15 was the longest and heaviest which Hamburg had yet experienced. It began soon after nightfall and continued until 5.30 a.m. on the morning of November 16. 'R.A.F. raids on Hamburg', said the Air Ministry Bulletin (No. 2280) of November 16, 'have hitherto been almost exclusively confined to the dock areas, but last night's objectives were more widespread and attacks were made on railway centres, power stations and industrial targets, as well as on a dockside, an oil refinery and a naval shipbuilding yard.' The railway sorting yards in the Billwarder and Moorfleth districts were repeatedly

bombed by relays of aircraft for nearly two hours. Many great fires were started and the blaze of one could be seen forty miles away. Later in the night the Barmbeck gas-works were set on fire, and the electric power station at Altona was also heavily attacked. The hammering which Hamburg received on this night and which affected the public utility services of the city as well as the shipyards and docks, was the answer, in part, to the Germans' indiscriminate attacks on the English cities. It was the most damaging raid which Hamburg had suffered, and it was followed up by another very severe attack on the night of November 24, when, however, the great shipyards were again the main objective.

The Raids of Cologne

Cologne had its turn a few nights later—on November 26, when armament works, electric power plants, goods yards, railway stations and docks and warehouses on both sides of the Rhine were heavily attacked by relays of our bombers during the night. Fires were started near the great Hohenzollern bridge, and were renewed when a further and still heavier raid was carried out on the next night, November 27. One of the fires caused to the east of the bridge on the latter night was a mile long and very broad. Goods yards in other parts of the city were attacked on the same night (November 27), and so were the docks and wharves on both sides of the Rhine, a power station and the big Humboldt works. A pilot who took part in this raid and who was reminded that Cologne was founded by a

German tribe when Agrippa forced it to migrate across the Rhine, said: 'We are carrying on the good work and last night I think we did a good deal to encourage them to begin migrating again.' Two days later, on November 29, an attack upon the 'inland port' at Cologne left behind it a trail of fires which could still be seen when the bombers were half an hour's flying time away.

The Raids on Düsseldorf

Düsseldorf was next on the list. It suffered very severely on the nights of December 4 and 7. The first of these raids lasted from 6 p.m. on December 4 to 6 a.m. on the morning of December 5. Railway yards in the Derendorf district to the north of the town, the Mannesmann Rohrenwerke armament works, and the quays and dockyards along the Rhine were heavily bombed. In the raid of December 7 the Press and Walzwerke blast furnaces and steelworks were smothered in a shower of nearly four thousand incendiaries as well as a very large number of heavy high explosive bombs. 'A long string of fires' became later separated into 'three distinct rows of fires and many smaller ones.' 'Finally the fires had spread until the whole works were encircled in a wall of flame half a mile round.' 'A number of aircraft made a joint attack on a group of long buildings which forms part of the steel works. As a result of several direct hits the roofs were blown into the air, the walls fell apart, and nothing but a heap of rubble remained.' The fires in the steel works and many elsewhere in the city could still be seen when our

bombers had flown forty miles towards home. The goods yards at Düsseldorf-Derendorf and the Mannesmann Rohrenwerke armament works were again attacked on this night, and the damage caused by the raid of December 4 was increased. The city's gasworks were also bombed with good effect. Another concentrated attack was made on the industrial area of Düsseldorf on the following night (December 8), the Press and Walzwerke blast furnaces and steel works being again the main target. 'Flames blazed up in one factory, enveloping the whole building, and remained a ragged glare in the sky long after our aircraft had gone away.' It could be seen thirty or forty miles away. 'We clouded Düsseldorf good and hard,' said one of the pilots.

The Raids on Mannheim

Mannheim, the chief industrial centre of the upper Rhine, was the next recipient of the Bomber Command's unwelcome favours. The inhabitants of the city whose memories go back for twenty-two years must have wondered whether time had stood still: for in the summer and autumn of 1918 Mannheim and its twin town of Ludwigshafen, across the Rhine, were repeatedly raided by General Trenchard's Independent Force, and the new attacks might have been almost a continuation of those which devastated the industrial areas of the district then. The aniline dye factory, the largest in Germany, was bombed many a time in 1918; it was again a main objective in the raid of December 16. Attacks were also directed against the railway yards,

the river front and the industrial buildings on the right bank of the Rhine. The fires were of unusual intensity and of wide extent. 'It was the biggest show I have ever seen,' said one pilot, 'and I got tired of even trying to count the fires.' 'At times larger fires dwarfed the rest, as when the roof of a great factory fell in.' 'The very weight of the attack seems to have harassed and bewildered the ground defences, so that some aircraft had to run the gauntlet of intense anti-aircraft fire, while others were left almost entirely alone.'

Smoke from the fires left burning on the morning of December 17 was still hanging over Mannheim when our bombers again visited it in the night of December 18; there had meanwhile been a minor raid upon it on the night of December 17, in very bad weather. Many new fires were started in the third successive raid upon the town, and one of them, near the railway station, could be seen blazing until our bombers flew into cloud, twenty miles from Mannheim. Yet another heavy raid was carried out in the night of December 22—the seventh in the month. Most of the damage was done on this occasion in the neighbourhood of the main railway station and in Ludwigshafen, when there were 'spreading wastes of flame'. A direct hit was made on a part of the works of the I.G. Farbenindustrie, one of the largest chemical works in the world. The result of these repeated raids on Mannheim was that the river traffic was seriously impeded and that the rail traffic to and from France had to be deviated to another and less satisfactory line. Reliable intelli-

gence reports revealed that some 248 industrial properties in Mannheim were destroyed by our bombers in December, that seven factories were compelled to stop work entirely, and that the shipping yard was burnt out.¹ Undoubtedly the smooth working of Germany's machinery of transport, and also the activity of an important part of her industrial life, must have been gravely interfered with by the Royal Air Force's raids in December upon Mannheim and other vital centres.

The Effect of the Counter-Offensive

The full story of the British counter-offensive in the Battle of Britain would need a whole book for its telling. In the seven months, June to December, 1940, the Royal Air Force carried out more than four thousand raids upon objectives in Germany and enemy-occupied territory. They struck again and again at every chink in Germany's armour. Undoubtedly the damage which they inflicted upon the Nazi war-machine was immense and most helpful to our own defence. The successful resistance which our fighters and anti-aircraft gunners maintained to the German onslaught upon Britain has been contributed to in no uncertain degree by the sustained offensive which the striking force of the Royal Air Force carried on against the bases of the enemy's munitionment and supply. The *Luftwaffe* has been operating against this island mainly from advanced

¹The *Times*, February 4, quoting 'A senior R.A.F. officer'. A similar statement, obviously inspired, was published in other newspapers also.

bases, not its regular aerodromes, and the work of providing those bases with the needed flow of equipment and supplies has been rendered more difficult by the dislocation and delays resulting from our incursions into the interior of Germany and against the lines of communication linking the factories or depots and the aerodromes in the Low Countries and in France. Germany's production of war material has been appreciably reduced, moreover, by the bombing of her munition factories, and there has been a slowing-up of the tempo of her industrial life. The raiding has been scientific, not haphazard. It has been based on plans of attack carefully conceived and long prepared. Weak points in Nazi industry and transport have been systematically singled out and assailed. Already evidence is accumulating of the effect of our sustained attacks upon the efficiency of Germany's war effort, and, incidentally, upon the morale of her people.

On January 17, 1941, statistics, with maps, were issued by the Ministry of Information illustrating the increase in the intensity of our offensive against Germany in the later months of 1940. At the end of September 900 raids had been made on target areas in Germany itself. By the end of December the number had increased to over 1400. More than 500 of these raids had been made against the Ruhr, and these, the Ministry of Information stated, were particularly noteworthy in view of Göring's pre-war boast: 'I have convinced myself personally of the measures taken to protect the Ruhr against air attack. We will not expose the Ruhr to a single

bomb dropped by enemy aircraft.' Thousands of tons of bombs have fallen on the Ruhr since the Reichmarshal spoke. Higher up the Rhine, the heavily industrialised region between Frankfurt-am-Main and Stuttgart had been raided almost as frequently. Mannheim, in its centre, had been bombed thirty-four times. Cologne had had fifty-five raids, Gelsenkirchen forty, Duisburg-Ruhrort thirty-five. Two hundred miles to the east of the Ruhr the large centres of munitions works and oil plants in the Leipzig area, at Leuna and Magdeburg, had been bombed less frequently but with devastating effect; and still farther afield the great oil centre at Pölitz near Stettin had been visited half a dozen times by our heavy bombers. Berlin itself had had thirty-five raids. The great shipping centres of north Germany had been attacked again and again. Hamburg had had sixty-one raids, Bremen fifty-two, Wilhelmshaven thirty-six, Emden twenty-seven and Kiel twenty-one. Aerodromes in north and western Germany had also been attacked on a large number of occasions.

The Future

Yet the worst—for Germany—is still to come: for us, too, perhaps, but we can endure with better heart. We have many an ordeal to face in the year 1941 and grievous trials to undergo, but we can hold out in the confidence that, in the end, Germany will suffer more than we and will not bear the strain so well. Our air strength is growing apace and will be immensely greater by next autumn; Germany's is at

or near its peak. Before the end of the year an 'avalanche of armaments'—the phrase is Sir Walter Layton's—will pass to our aid from America. Perhaps there may be a minor avalanche of men from the same quarter, too, that is to say, of airmen. The Eagle squadron may have surrounded itself with a lusty brood of new squadrons by then. The United States need not be a belligerent for that to happen. In any case, the weight of America's effort in the field of construction will begin to be powerfully felt before long. In April, 1917, a British writer, now dead, hazarded the thought that 'a locust plague of American aircraft will reduce Germany to earth and rock'. The forecast was not fulfilled in the war of which he was thinking. Perhaps it was a 'delayed-action' prophecy, not a false one, after all.

CHAPTER VIII

Through German Spectacles

The Various Spectacles

The spectacles may rest on a variety of noses and may reflect a variety of views. There is, for instance, the view that is seen by Herr Hitler himself; there is the view, too, of Göring, or of other high priests of the Nazi cult. These views may vary: there is reason to believe that the facts, when known and not liked, are not always allowed to reach the Führer's eyes or ears. What any of the Nazi chiefs see, moreover, may be something different from what they *say* they see. The truth may be known to them, or some of them, or at least approximately known, but they may, and do, distort it. They do so for two reasons: first, to mislead the foreigner and especially the enemy; secondly, to keep up the morale of the German people. For that and other reasons it is exceedingly difficult to say what German spectacles do in fact reflect at any given time. There may be a variation, again, between the view which presents itself to the German civilian or man in the street and the view of the member of the German armed forces. The man serving in the *Luftwaffe*, for instance, must know a good deal more about many unpleasant things, such as the losses of his arm of the service, than ever

reaches the ears of the ordinary German. Then there is the further complication that if either the soldier (or sailor or airman) or the civilian does really know the truth he has usually to be particularly careful in Germany not to blurt it out. It is bad policy to be too truthful in a totalitarian State. Finally, over everything there hangs the fog of war, obscuring the outlook and making all observation difficult. Something of the same kind of obstacle or impediment in the path of the seeker after truth is to be found in any belligerent country, but at least here in Britain our rulers trust the people more fully and the population is not kept so rigorously in blinkers.

War is a matter of *feeling* as well as of *fighting* to-day. What people think in belligerent countries is a factor in the issue of the struggle. The reaction of the inhabitants to the experiences which war brings to them is a contribution to victory or defeat. In considering the Battle of Britain in all its aspects one has to take account of what has been happening not only as it appears to us in this country, but also as it appears to the Germans. To arrive at any kind of single focus of some sort of common denominator of a view (if one may use such a phrase), is not easy, but it is worthwhile, nevertheless, to try to do so, because our own view can occasionally be corrected by being brought into relation with that of the enemy, official or unofficial. It is not unprofitable to learn in what a different light events may present themselves to an enemy and how great the effect of a change of view-point from one side to the other of a frontier may be.

Why Invasion Hung Fire

There is no doubt that the German people, and probably the German High Command, expected that a speedy victory over Britain would follow upon the defection of France. It has been suggested that that expectation would probably have been realised if Hitler had at once launched against this country the invasion which he undoubtedly planned for a later date. He lost a great opportunity, it is said, by delaying. The suggestion fails to take account of the practical possibilities of the case. It would have been physically impossible to mount an invasion within the time available if it had been attempted soon after France's collapse. Our own lack of armaments, of which we lost an enormous volume in France, would have made resistance to an invasion a much more dubious undertaking than it would have been a few months later. On the other hand, the Germans could not possibly have embarked an expeditionary force of the size needed to conquer this country without first collecting a very considerable fleet of transports of all kinds—such a fleet as was in fact assembled by the middle of September. That concentration of ships and barges could not have been completed in a few weeks. There was no reason to suppose before the close of the Battle of France that the conditions would exist in which it would have been needed. Time was necessary then to allow the preparations to be made for the next stage—the Battle of Britain, and those preparations had to be on a great scale if the projected invasion were to have any chance of success.

Fictitious German Casualty Reports

Before an invasion could be attempted it was essential in any event that the *Luftwaffe* should obtain temporary command of the air over south-eastern England. All the world knows that the German attempt to obtain such command was defeated by the Royal Air Force in August and September, 1940. The fact that it had failed must have been known to the German High Command. It was carefully concealed from the German public. The figures of the disastrous losses in machines (and airmen) were suppressed and totally fictitious figures were published instead. It was claimed, for instance, in an official *communiqué* that 143 British aircraft were destroyed on August 15 for a loss of only thirty-two German machines. Actually, the German loss on that day was 180 aircraft and only thirty-four British fighters were shot down and only seventeen British fighter pilots killed. Of the 180 German machines, forty-nine were shot down on the land. 'The German High Command will find it difficult to explain', said the Air Ministry *communiqué* of August 17 (No. 1406), 'how the wreckage of forty-nine of their aircraft came to be strewn over the British countryside if their total losses for the day were only thirty-two.' It is perfectly evident to everyone who lived in south-eastern England that the German reports of losses were absolutely fantastic. In one or two parts of Surrey crashed German bombers were such a common feature of the landscape during August and September that no one took much notice of them, and Surrey was not nearly so much cluttered up

with wreckage as was Kent. The people of the Ashford district of Kent became positively sick of the sight of untidy Nazi bombers lying all over their nice countryside. Four came down there in one morning alone and made particularly unsightly wrecks.

Every belligerent will try, of course, to put the best complexion possible upon his loss or casualty figures, or other unfavourable items in his war reports, but the Nazis really over-reached themselves in this respect. They laid the embellishment on with a trowel. They halved their losses even where they were small and could be easily verified. Thus, on the night of October 15, they asserted, *two* aircraft were lost in the raids on this country. We simply replied that *four* were shot down in that night and could be seen at Harwich, Bishop's Stortford, Denbigh and Frome by anyone who chose to go and look. This was a particularly foolish effort on the part of the German propagandist experts because only a week before we had refuted one of their claims in still more devastating fashion. A High Command *communiqué* stated that *three* German aircraft did not return from the raids on October 8. Our *communiqué* stated that *eight* were shot down, two into the sea and six on land, and gave full particulars of the latter—type of machine, names of survivors (of whom there were eight) and other details enabling the aircraft to be identified.

The Germans, it may be added, were not selfish in this matter. They were equally prepared to cook the accounts of the comparative losses in the interests of the weaker partner of the Axis. On November 11 the

Regia Aeronautica ventured for the first time to approach our shores and suffered a disastrous defeat; thirteen Italian aircraft, as well as twelve German, were destroyed and we lost only two fighters, neither of them in the engagement with the Italians. Yet the German official *communiqué* of November 12 had the nerve to say that the Italian airmen had shot down *seven* of our fighters, and improved on this flight of fancy next day by correcting that figure to *ten*!

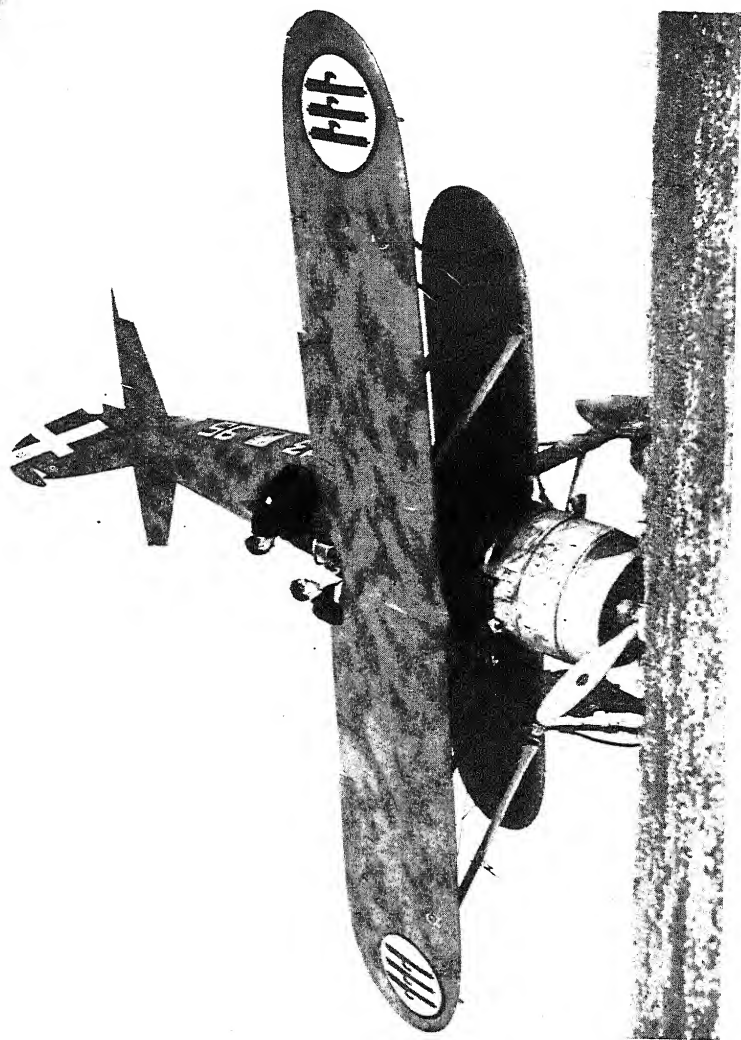
German Pilots' Flights of Fancy

It is possible that the German authorities have sometimes been misled by the reports brought back by their airmen of successful encounters with enemy aircraft—reports for which there is little or no substance in fact. We know that the commanders of the U-boats habitually lay claim to the destruction of a tonnage of shipping two or three times as large as that actually sunk. We know, too, that a German pilot was awarded the Iron Cross for sinking the *Ark Royal*—which is still afloat. We know that 'the destroyer squadron Horst Wessel'—a fighter squadron of the *Luftwaffe*—was cited for shooting down fifty-one British aircraft on August 18, when, in point of fact, *all* the German squadrons engaged shot down only twenty-two of our aircraft (the pilots of twelve were saved). A rather illuminating light is thrown upon this question of pilots' reports by an incident of which a bold German baron was the hero.

This baron, Von Werra, a flying officer, described in a broadcast from Berlin in September how he had skittled our fighters out of the sky in the

battles over London. He was attacked by scores of Hurricanes and Spitfires; he shot down five of them, out of hand. Four more, damaged by him, tried to land; he followed them down, pouring a stream of bullets into them as they went down. Then, still greedy for victories, he machine-gunned a number of aircraft on the ground. He too, received the Iron Cross. The sequel was appropriate. Von Werra was brought down and made prisoner shortly after his broadcast and, as usual, was interrogated by the intelligence officer of the Air Force squadron into whose hands he fell. The questions asked related to his exploits as claimed in his broadcast—exploits which could not be reconciled with any incidents of the air fighting known to the Royal Air Force. The interrogation was perfectly polite and did not show too crudely that it was largely in the nature of a 'leg-pull'.

One is inclined, in view of such an instance, to be a little sceptical about the claims made for other German 'Aces'. Perhaps Major Helmuth Wieck did in fact bring down fifty-six enemy machines before he was killed in an air combat off the Isle of Wight on October 28. Of the fifty-six, twenty were machines shot down in the Polish campaign, and others destroyed in France. A similar 'bag'—about fifty-six—was claimed for Major Molders up to the close of 1940. Molders was shot down by a French pilot just after he had gained his twentieth victory, and was taken prisoner, but was released, with other captured German airmen, when the Vichy Government capitulated. There is no evidence that the



Fox Photos Ltd.

AN ITALIAN INVADER'S END

One of five CR.42 fighters which, with eight bombers, were shot down in fifteen minutes by our Hurricanes, without loss, on 11 November, 1940, when the *Regia Aeronautica* first approached our coast.

claims made for these pilots are unfounded, but one would like some better corroboration than an official German statement of their achievements or the award, to each, of the Iron Cross. German spectacles however, do not peer too critically for possible flaws in the official pictures of German triumphs.

German Attacks on Aircraft Factories

There is reason for suspecting that the habit of embroidery was not confined to the fighter pilots but was shared by their comrades in the bomber squadrons of the *Luftwaffe*. At any rate, one German airman was awarded the Iron Cross for destroying 'the assembly shed of the most important plant of the British aircraft industry'. The site of the plant referred to in this tall eulogium was (perhaps wisely) not specified. Another airman received the same award for 'destroying an aircraft factory'—apparently the whole of it—'and considerably damaging Croydon and Biggin Hill aerodromes'.¹ These awards would certainly have been well earned—if the feats of destructive bombing for which they were given had in fact been performed.

Aircraft factories and aerodromes were principal objectives of the *Luftwaffe* in the autumn of 1940 and successful attacks on them were repeatedly claimed in the German *communiqués* of that time. Sometimes, but not invariably, precise particulars of the factory attacked were given. One finds mention of raids

¹ The three awards referred to are quoted in *The Aeroplane*, November 29, 1940.

upon the following places: the Vickers factory at Weybridge; the Vickers-Armstrongs works at Chester; the Austin works at Longbridge; the Blackburn works at Brough; the Spitfire factory at Woolston; the Handley Page works 'near London'; aircraft factories at Yeovil, at Reading, at Rochester, at Filton, at Crewe, at Kingston, at Birmingham, at Coventry, at Weybridge (again), at Southampton, and at Speke.

German Attacks on Aerodromes

The aerodromes attacked were more frequently mentioned specifically, though sometimes the reference in the *communiqués* is in general terms. A *communiqué* of August 21, for instance, claimed that fifteen aerodromes had been bombed. Places at which aerodromes were attacked, according to the German reports, were these: St. Merryn, where it was alleged in a *communiqué* of July 13 that eight aeroplanes were destroyed on the ground; Pembroke; Plymouth; St. Athan; Bicester; Tunbridge Wells; Tynemouth; Manston, which was stated on August 12 to have been 'completely destroyed'—yet, next day, another attack on it was reported, four planes being (it was stated) destroyed on the ground;¹ Eastchurch; Detling; Farnborough; Dover; Odiham; Middle Wallop; Aldershot; Gosport; Lee-on-Solent; Deal; Warmwell, north-west of Portland;

¹ It was admitted in an Air Ministry *communiqué* that on August 24 a good deal of damage was done to buildings at Manston; but the aerodrome was never 'completely destroyed' or even put out of operation.

Southend; Abingdon; Henley (Kenley?); Biggin Hill; Hawkinge; Lympne; Hornchurch; Gravesend; Eastbourne; Croydon; Pembroke-Carew; St. Austell, where hangars, huts and 'planes on the ground' were claimed to have been destroyed on October 3; Penrhos; St. Eval; Henlow; Norwich-Catton; Stratishall; Wattisham; Great Driffild; Leeming; Rum; Scampton; Marham; Cranwell; Lincoln; Lowestoft; Yarmouth; Mildenhall, where aeroplanes on the ground were destroyed, according to a *communiqué* of December 31. There are references also to attacks on 'air ports in Cornwall', 'aerodromes in Lincolnshire and Suffolk', 'in Kent and Essex', and 'in Norfolk and Cambridgeshire'; also to 'an aerodrome within the perimeter of London'.

It will be observed that this list covers a substantial proportion of all the Air Force stations in England and Wales, and if, as was probably the case, the bombing crews brought back glowing accounts of the havoc which they had wrought, it is possible that the German High Command was deceived about the results of the raid. In any case German spectacles would have been distinctly tinted for viewing the scene. Actually, the damage done in all these raids was slight. The very fact that our Air Force was never prevented from smashing up the German attacks by day or from continuing to raid Germany and occupied territory by night is evidence that its bases survived. The price which the German raiders paid for such success as they achieved was heavy. When Croydon aerodrome was attacked, for instance, on August 15, every one of the German raiders was

brought down.¹ No hint of that disaster was given in the German *communiqué*, which only stated that 'several aerodromes' in the south-east, south and Midlands of England were bombed on that day.

The 'Graveyard' of German Aircraft

Nor was any hint given, of course, of the other staggering losses which the *Luftwaffe* sustained throughout August and September. A pictorial reminder of the magnitude of these losses even in the first half of August appeared in *The Times* and other newspapers of August 22, when photographs of a 'graveyard' of German aircraft which had been brought down in this country were published. One could see the smashed machines heaped in masses, the broken fuselages, the shattered wings, the twisted propellers, the heaps of metal and fabric, of undetermined parts and components. It was an impressive sight, yet it told only a very small part of the tale of disaster. The real 'graveyard' of the Nazi aircraft was not on land. It was, and is, in the narrow waters around our coasts. For every German aircraft that crashed on land in this country at least two came down in the Thames Estuary, off the Kent coast, in the English Channel and westward to Portland Bill. 'I counted eleven splashes in the sea that day,' said a fighter pilot whose experiences were quoted in an Air Ministry Bulletin (No. 1756) of September 18. Many more machines were lost than

¹ Air Ministry *communiqué* (No. 1403) of August 16. The main damage caused in this raid on Croydon was sustained by a scent factory.



Topical Press Ltd.

SCRAP METAL FROM GERMANY

Workmen engaged in breaking up German aircraft shot down in the Battle of Britain; there were many similar dumps.

were ever seen to crash or were ever claimed by us as German losses: machines damaged by our fighters or anti-aircraft fire, machines which tried to limp home but failed, machines which came down because of engine failure or some other mishap. The Germans lost just over 3000 aircraft over and around the coasts of Britain between the beginning of the war and the end of the year 1940. These were the *known* losses; it is safe to assume that they were by no means *all* the losses. At least half of them repose under the waters around our shores. On a very modest computation there must be between £20,000,000 and £30,000,000 sunk, in the form of German aeronautical equipment, in the Channel and its approaches to the west and to the north. The number of German airmen who lie lost in these waters probably exceeds four thousand.

The Red Cross Misused

These facts were and are unknown to the people of Germany. They cannot have been entirely hid from the members of the air service. Certainly they were known to the German High Command. How much disturbed that Command was by the serious losses of flying *personnel* is evident from the efforts made to rescue the airmen who came to grief. The first expedient adopted was the fitting out of Heinkel 59 seaplanes as 'ambulance aircraft', marked with the Red Cross and dispatched to cruise over the Channel during the engagements. Two of these machines were forced down by our fighters early in July. The log-book of one showed that it had been

used as a reconnaissance aircraft, that is, for a purpose of a definitely military, not a medical or humanitarian, character, and one against which the opposing belligerent was fully entitled to take repressive measures. Accordingly, when on July 29 two German seaplanes marked with the Red Cross approached our coast, accompanied by heavy fighter escorts, they were shot down into the sea by British fighters. Our Government gave its reasons on the same day for refusing to accord to aircraft of this kind the privileges provided for in the revised Geneva Convention of 1929. It stated that His Majesty's Government desired to grant the privileges in question to ambulance aircraft complying with the provisions of the Convention, but were unable to grant immunity to them when flying over areas in which operations were in progress on land or sea, or when approaching territory in British or Allied occupation or British or Allied ships. Ambulance aircraft not complying with these requirements would do so at their peril.¹

In August a further attempt was made by the German Government to ensure the safety of its airmen shot down in the sea. It notified our Government, through the Swiss Government, that it proposed to make use of a number of vessels—sixty-four in all—marked with the Red Cross to rescue airmen in danger of drowning. Our Government replied that the use of such vessels would interfere with the conduct of naval and military operations and could not be accepted. It went on to refer to Germany's

¹ Air Ministry *communiqué* (No. 1254) of July 29, 1940.

attacks on British hospital ships and to the sinking of the *Maid of Kent*, *Brighton* and *Paris*.¹ It was characteristic of the distortion of view which German spectacles seem inevitably to cause that the outrages committed against our hospital ships, which are entitled to immunity under international law, and our refusal to *extend* the Geneva Convention in the manner proposed by the German Government, could be viewed in such different lights.

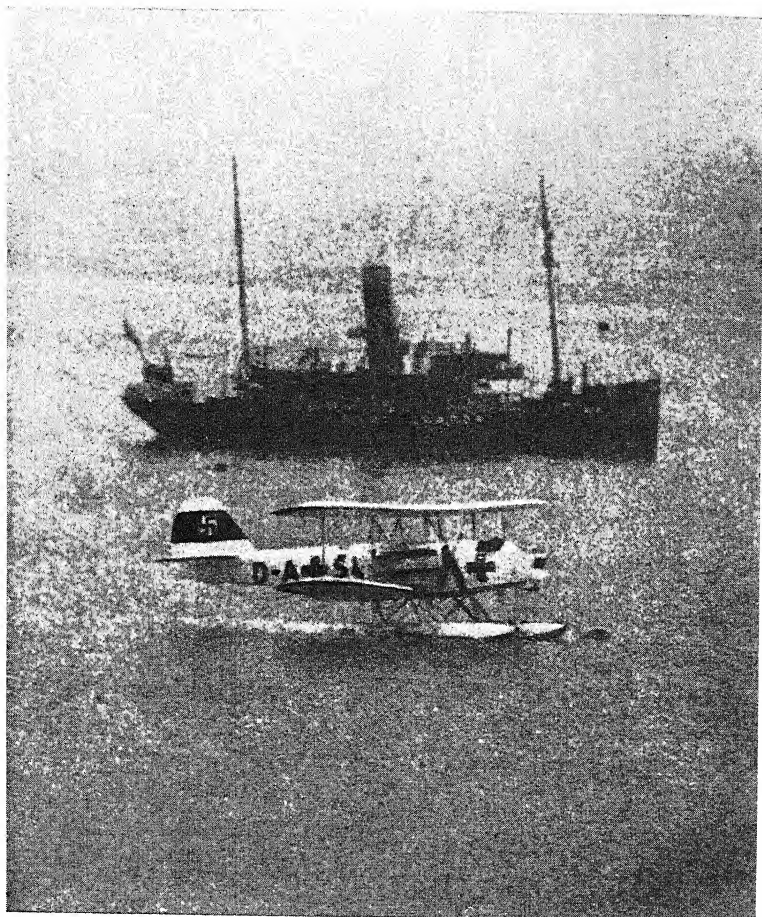
Naturally, there was a shriek of rage in the Nazi Press against our refusal and a chorus of condemnation of British 'brutality'. The use of the so-called ambulance aircraft was not given up, however. One of them was seen again in the air battles over the Channel on August 11. On that day, too, a number of 'E' boats attempted to rescue German airmen who had been shot down. Fast British naval craft put out to drive the 'E' boats off. We had our own motor launches which rescued enemy airmen as well as British and there was no inhumanity in our declining to allow the German airmen to be restored to their own service instead of being made prisoners of war. It would have been manifestly to our military detriment to have looked on while they were being rescued off our own shores, where the chances of war had struck them down, and thus to have deprived ourselves of one of the advantages which the air fighting in such an arena gave us, namely, that the enemy airmen who came down were lost to their own side, by death or capture.

¹ The Admiralty statement on the subject is given in *The Times*, August 31, 1940.

There must have been in Germany some spectacles at least which reflected luridly the flame and smoke of the air battles of August and September. The toll which our terrible moat, the Channel, was taking of the flower of the *Luftwaffe* cannot have been wholly concealed. Search the German *communiqués*, however, and you will find no trace of a reference to the enormous wastage of machines and men then taking place. That wastage may well be found eventually to have an influence upon the ultimate issue of this war; Germany's loss of trained airmen in the autumn of 1940 may be a factor in the contest for supremacy in the air in 1941.

Why the Germans Resorted to Night-bombing

It is commonly supposed that it was because of Germany's failure in her attempt to win command of the air by daylight that she turned to night-raiding. That was one reason, no doubt, but it was not the sole reason. We know what Hitler's explanation of the change has been. He has repeated it often enough. It was because we were bombing German towns by night and killing women and children, and he was driven, reluctantly, to resort to similar methods. In his speech in the Reichstag on July 19 he complained of our attacks upon the civilian population of Germany and threatened that the German reply to it would bring misery to millions. When opening the Winter Relief Fund on September 4 he said that the British were bombing Germany by night because they could not fly over the Reich by day, that they were scattering bombs indiscrimi-



Planet News Ltd.

A NAZI TRICK

A 'Red Cross' seaplane, used for rescuing German airmen shot down off the British coast and, incidentally, for reconnaissance, is forced down and captured.

nately and striking at civilian residential quarters, at farms, etc. For three months, he said, he had not replied, thinking that they would stop, but now the British would know that 'we are giving our answer night after night.' 'If they attack our cities we will simply erase theirs. We will call a halt to these night-pirates . . . If the British throw two or three thousand kilogrammes of bombs we will unload 150, 180, yes 200 thousand. . . .' A storm of applause from the Nazi audience drowned the conclusion of his sentence.

On November 9, in his speech to the National Socialist Party at Munich, he claimed that the German Air Force had dropped no bombs at night in Poland, Norway, Holland, Belgium and France. He waited, he said again, to see whether the British would discontinue their night raids, and only when he found that we were determined to go on with them did he reply in kind. On December 10, in a speech at an arms factory in Berlin, he repeated the assertion that he had waited for months in the vain hope that we would give up night-bombing. He denounced 'Churchill's idea of unlimited air warfare at night.' He could no longer take the responsibility, he said, of seeing his own people suffer while foreigners were spared, and so he had authorised the *Luftwaffe* to undertake night-raiding. Finally, in his proclamation for the New Year to the Nazi Party, issued on December 31, he went over the old familiar ground—that Britain had started the practice of night-bombing, that he had waited three and a half months before replying in kind, and that the suffer-

ings now being endured by the British towns were the direct consequence of 'the Churchill crimes'.

The writer deals below with the question whether it was in truth the desire to spare civil populations which made Hitler hesitate to begin night-bombing. Another and more compelling motive is to be sought in the Führer's warped mentality and is comparable to that which, in all probability, lay behind some of his bold strokes in this war: the attack on Norway in April, for instance. It is known that the *Altmark* incident of February, when the Royal Navy rescued British subjects from the prison-ship in Norwegian waters, roused him to a pitch of fury which was unequalled even in his intimates' experience. He felt that it was an unforgivable outrage that his authority should be flouted in such a fashion almost on his own door-step. He would make it impossible for Norway's neutrality to be abused by the accursed English ever again. So Norway was invaded and occupied and the overwhelming might of Nazi Germany demonstrated. So, again, when the Low Countries showed a disposition to enter into trading agreements with Britain designed to limit the export of their produce to Germany, he determined to teach them a lesson: though that was not the sole reason for his stroke of May 10. He would show them that he had a better weapon of compulsion than England's gold. He had guns and tanks and dive-bombers. *He* did not ask for economic pacts; he went in and seized what he wanted. So, too, one may surmise, he was incensed beyond reason by the flights of our audacious airmen into the heart of Germany,

the sacred realm of Nazidom, and determined to strike back with blows more devastating than any which we could deliver. There were baffled rage, wounded pride, the half-maniacal frenzy of the sleepless spoilt-child of totalitarian intolerance behind the order which launched the bombers of the *Luftwaffe*, still ill-trained for night-flying, against our cities in the autumn of 1940. It was, indeed, the only way in which they could hope to reach our cities without being cut to pieces on the way.

Who Began the 'Frightfulness'?

The German *communiqués* and wireless announcements were at pains to emphasise the *retaliatory* character of the raids on London which began on September 7. They were described in a semi-official commentary issued in Berlin on September 9 as 'a well-deserved reprisal for Britain's crimes against the German civilian population'. 'Civilians in countless German towns and latterly in Berlin have been the target of wilful attack,' it was stated. 'Now the German Air Force has resorted to reprisal for the first time and has shown its ability to raze British cities to the ground as soon as the order is given. But even now London does not understand.'

Certainly London did not understand. Who, out of Bedlam, could possibly understand? The working of the Nazi mind is beyond comprehension. Who began the 'frightfulness' from the air? Who devastated Rotterdam, when a whole section of the city was destroyed and only three buildings were left standing in an area of three square miles, when

thirty thousand people were killed and nearly as many more injured? Who destroyed the whole of the centre of Tournai, where every house in an area 750 yards square was demolished and over 600 persons perished in the cellars where they had taken refuge? Who destroyed the centre (again) of Nivelles, wrecked whole blocks of houses at Namur, burnt a score of villages in Flanders? Who machine-gunned refugees on the roads in Belgium and France? 'The Germans', said President Roosevelt at his Press conference on May 21, 'are conducting warfare in a manner the world has never seen before.' They were swooping from the sky, he said, on the women, children and old men fleeing southward in France, and slaughtering them.¹

These horrors were perpetrated in the light of day. Was that what made them respectable? Is it only by night that an air force is forbidden to run amok? And is it unlawful to bomb an isolated arms factory at night? What is the rule? None forbidding night-bombing is known to the writer. In any case, the practice was begun by the German airships in the last war. They, presumably, were committing 'Churchill crimes', but no one in Germany said that, or its equivalent, then.

Hitler's Pretext

What is forbidden by international law is not night-bombing but bombing, whether by day or

¹ For a description of the German air onslaught on the refugees, see *The Road to Bordeaux*, by C. D. Freeman and D. Cooper.

night, which is either indiscriminate or directed deliberately at the civilian population. Such bombing is terroristic in the sense that its object is to break the nerve and morale of the civil population. It is an offence against law and humanity. Our night-bombing was not terroristic. It was directed against military objectives. The real objection to it, indeed, was, in German eyes, that it was *not* indiscriminate. It was so precise that it was hitting Germany in her vital places and substantially injuring her war effort. *That* was why it had to be stopped—by retaliation of a purely terroristic nature. Hitler's solicitude for the poor civilians who suffered was simply a sham. His charge that we began it was only the seizing of a pretext.

Does anyone suppose that he would not have sent his bombers over this country as soon as it suited his book, no matter what we had done? Göring, who should have known his master's mind, evidently thought that he would. In a New Year's message to the *Völkischer Beobachter* of December 30, 1939, he wrote: 'The German Air Force will strike at Britain with an onslaught such as has never been known in the history of the world as soon as Hitler orders counter-measures to the *British Blockade*.' Nothing here, it will be observed, about waiting until we began bombing Germany; Germany was to bomb us as an answer to our blockade. *That* would have been the pretext if the other had not come conveniently to hand.

The Munich and Coventry Raids

The attacks on London were not the only raids which the German *communiqués* signalled as reprisals. The raids on some other towns were similarly categorised. That on Coventry, for instance, on November 14, was described as a reprisal for the bombing of Munich on November 8. The latter raid was one which must have been particularly offensive to Hitler. It was timed to take effect at about the time when he was due to address the Old Guard of the Nazis at the famous Beer Hall. (Actually, he spoke elsewhere.) A pilot who took part in the raid has told how he and his fellow-pilots were informed that Hitler would be at the Beer Hall and that his machine was loaded with a particularly heavy bomb for the occasion—one of the heaviest ever carried into Germany. The bomb was to be dropped on the railway station, but somehow overshot its mark and landed on or very close to the Beer Hall. 'It made the dickens of a wallop,' said the pilot, and he added: 'Altogether, it was a perfect trip.' The rage of all the myrmidons of Nazidom can be imagined. The act of the Royal Air Force was here something more than criminal; it was *lèse-majesté*. The wrath of the outraged Germans blazed up in the attack on Coventry six nights later. According to the German *communiqué* of November 15, 450,000 kilogrammes (440 tons) of bombs were dropped on Coventry and great material damage was caused, but the death-roll was in point of fact a small 'bag' in fatal casualties for the huge volume of high explosives expended.

Effect of the German Bombings

It has required considerably more than one ton of bombs to kill each victim of the German air raids upon this country. The return for the weight of explosives dropped in terms of destruction of property has been more impressive, though some of the German claims in this respect have been gross exaggerations.¹ Our war effort has not been seriously impeded by the raids. 'It would be folly to deny that damage has been done by bombing to production,' said Mr. Arthur Greenwood, Minister without Portfolio, in the House of Commons on November 27. 'If German boasts of the weight of bombs dropped over this country are even nearly accurate, the results on production have been surprisingly small.'

According to a German *communiqué* 450 tons of bombs were dropped on Birmingham on the night of November 19. The attack on Bristol on November 24 was described by the German News Agency on November 25, as 'falling within the same category as that delivered against Coventry' and presumably over 400 tons of bombs were dropped there too. Sheffield, Manchester and Southampton may have had something like the same weight of metal dumped on them. A still bigger load was discharged on London on the night of December 8,

¹ It was claimed on September 23 by 'an authorised source in Berlin' that since August 10 the German Air Force had dropped 22,580 tons of bombs on Britain, that 6000 British factories and industrial buildings had been destroyed or seriously damaged, 1400 of them being in London, and that damage to food storage and distribution centres amounted in value to £150 millions. (*Daily Telegraph*, September 24, 1940.)

when, according to the German News Agency of December 9, 700 tons of bombs and between 80,000 and 90,000 incendiaries were dropped, and factories, bridges, stations, docks, harbours and warehouses in many districts, and especially in Poplar and Bethnal Green, were destroyed or damaged. These tremendous weights of fire and metal, properly directed, would have sufficed to put every armament factory in all these centres out of action. Actually, the damage was confined almost entirely to commercial and residential property. It was heavy, but it was not crippling—for the purpose of the winning of the war. 'The factories are still at work,' reported a Press correspondent who visited Coventry within a week of the big raid of November 14.¹

The armament factories escaped destruction largely because, in the sharing out of the available anti-aircraft guns, the authorities had, wisely, given them priority. That meant, to some extent, sacrificing the other districts of the cities where they were situated, but it was the necessary policy if our war effort was not to be critically injured. It is also the fact that the night-bombing technique of the *Luftwaffe* is ham-handed and inexpert. Often the pilots and bomb-aimers do not seem quite to know where they are. It was claimed that they dropped over a hundred tons of bombs on Plymouth on the night of November 27 and that harbour installations were badly hit. The Nazi airmen are evidently not always quite sure of the town which they are attacking, not to speak of any particular target in that town. They sometimes

¹ *Daily Mail*, November 22, 1940.

do not even know what country they are over; that is probably the explanation of some, at least, of the bombings of places in southern Ireland. It is most likely that the airmen responsible thought they were over South Wales. For it is difficult to imagine that the Nazis could have any object in violating the territory of a Government, that has, at all periods of the present conflict, maintained such impeccable neutrality.

German Bombing Methods

The German airmen have, we know, an uncanny capacity for hitting hospitals. That is not, in all probability, because they aim at the hospitals; if they did, the hospitals would probably not be hit; indeed, they probably aim at nothing in particular. They simply dump their bombs on the built-up area. Yet the German people are persuaded that *their* airmen spare our hospitals carefully and that *our* airmen deliberately attack theirs. 'One of their (the British airmen's) favourite targets is hospitals,' said Hitler in his speech of December 10. 'Churchill assigns hospitals as targets,' he said in his New Year's proclamation on December 31. We know that that is absolute nonsense. It is inevitable, however, that a hospital must sometimes be hit if it happens to be situated near a military objective. The offence of the German airmen is that, at night, they do not even try to hit a military objective. They bomb indiscriminately, knowing nothing and caring nothing about the precise effect of their bombs, so long as some destruction is caused. They are, in fact, people

who should not be allowed within a mile of a bomber aircraft until either they are better trained for night-work or the policy which governs their technique is radically changed.

Effect of Our Raids

Naturally, that kind of bombing entails a heavy roll of casualties upon any urban area which they visit. Even with the best care in the world civilian life and property must suffer when armament factories or important railway junctions in a populated area are attacked. Our airmen bomb with the most extreme care, often descending to very low altitudes to make sure of their aim; yet even then civilian losses occur. In the raid on Hamburg on the night of November 15, 223 civilians were killed, according to a German radio announcement (but were any of them munition workers?). This raid was denounced by the German News Agency as 'an outrage on a peaceful German town'. 'A scene of indescribable destruction' was the result, according to the official German News Agency of an earlier raid on Hamburg, that of the night of October 10. In one thickly populated working-class area, it was stated, houses and courtyards were destroyed within an area of nearly three-quarters of a mile. In another, it was added, the visitor was met with the same picture of houses destroyed, ruined walls, collapsed roofs and heaps of rubble. (It might have been a description of some parts of London's east end after the raids of early September.)

The raid on Berlin on the night of October 20

turned a district mainly inhabited by doctors, lawyers and civil servants into 'a blazing inferno', according to the Berlin correspondent of the Swedish newspaper *Aftonbladet*.¹ This attack was described in the German *communiqué* of October 21 as 'a purely terrorist action against the Berlin population.' Berlin had another heavy casualty list in the night of December, 15; according to the German-controlled Radio Paris, 257 people were killed and hospitals, railways, houses, shops and churches were stated to have been hit. The Paris wireless station also disclosed that 247 people were killed in Germany by our bombers in the night of December 20, 160 of the deaths being in Berlin. The German official News Agency stated that in this raid the Berlin Cathedral and a number of historic buildings were damaged and that residential districts suffered severely. The usual complaint was made that our bombers were attacking exclusively the civilian population of the city.

The Tragedy of Air Bombardment

It is the tragedy of this war that people whose death or wounding can be of no advantage to the enemy are being killed or mutilated to an extent unknown since the Middle Ages. No spectacles are needed to see that these things are happening in one's own country. Neither side can see that they are happening in the other also—hence the misconceived demand in Britain that we should 'Hit them back', 'Give them a taste of their own medicine', and so on.

¹ Quoted in *The Times*, October 22, 1940.

The Royal Air Force are doing that already, not of set purpose, but inevitably as an incident of the bombing of military objectives. It is pitiful, yet it is a necessary process in the education of the German nation, for its moral must be that, to-day, war is a tragedy for everyone, everywhere.

CHAPTER IX

Defence by Day and by Night

Expectations not Fulfilled

Defence against air attack has not followed the book in this war. It has been, on the whole, more effective by day and less effective by night than had been expected. The prophets had foretold in general terms, that 'the bomber would always get through'. That forecast was clearly falsified in daylight operations; it has been one of the chief lessons of the Battle of Britain that the day-bomber does *not* get through. The few exceptions do not disprove the truth of this lesson. There has been here, in fact, a surprising reversal of the calculations of the authorities responsible for public safety in all the belligerent countries. In Britain we had made preparations on a vast scale for dealing with air raid casualties. Hospital beds to accommodate 250,000 victims of the raids in the first few days of war had been set aside, and other precautions taken were on a similar scale. The raids to meet which these preparations were made were expected to be daylight raids. This is evident from the policy which was adopted in regard to the provision of shelters. We relied mainly on the Anderson type of shelter for the protection of the population, and that shelter, it has been freely admitted by

Ministers and others, like Lord Horder, who were in the Government's confidence, were not designed for the use to which it has in fact been put, namely, as a kind of family dormitory. It was meant to be a day-shelter only.

The Escorting of Bombers

By day the fighter or interceptor has shown beyond question that it is the master of the bomber.¹ Our own bombers have sustained heavy losses when they have attempted daylight raiding. We lost many bombers in the raids of September 29, December 14 and 18, 1939, into the Heligoland Bight. In a raid of August 12, 1940, upon aerodromes in Holland and northern France, twelve of our bombers failed to return. The enemy's losses of bombers have been more serious still. They have been so heavy that the German High Command has been forced to adopt a series of expedients to reduce the rate of wastage. The first was the provision of escorting fighters, at first in small numbers, later in masses far exceeding the strength of the bombing formation which was to be screened. The main result was that the fighters and the bombers alike suffered severely at the hands of our interceptors. In the big raid of September 27 the proportion of fighters to bombers among the German aircraft which crossed our coast was four to one, yet 133 enemy aircraft were shot down on that day. At times, indeed, the escorting fighter pilots

¹ Our bombers have shot down enemy bombers on a few occasions. The most remarkable was that of October 11, when the *pupils under training* in a bomber shot down a Junkers 88 in 45 seconds off the Scottish coast. (A.M. Bulletin No. 1979.)

seemed to be more concerned for their own safety than for that of their charges. Two British pilots gave some interesting information upon this subject in a joint broadcast on October 6. One described an occasion on which he became separated from his squadron and found himself running into a layer of Messerschmitt fighters who were protecting a convoy of bombers below them. 'It was my job to attack,' he said, 'and I flew straight towards them. I put in a long burst at the nearest Messerschmitt and then shot up to make another attack. Immediately, the fighters—there must have been quite seventy of them—went into a protective circle, looking like a cat chasing its own tail, and they remained like that, all on account of one Spitfire. Meanwhile, they were deserting the bombers they had been sent to escort. A British squadron met the bombers, who paid the price for their fighters' timidity'. The incident related by the other pilot was of a similar kind. He too became separated from his squadron and fell in with six of the enemy. He shot one down and the other five 'dived for all they were worth and raced back towards France.' Then he ran into fifteen Messerschmitt 109's, who attacked him. 'I replied by picking off one Messerschmitt on the flank. He dived vertically out of the combat and I turned to attack another when he, too, put his nose down and fled. Immediately the whole bunch dived after him, and then, flattening out a long way below me, turned towards France.' The first pilot was careful to add that *all* German pilots are not so chicken-hearted as were those concerned in these incidents.

The Use of Messerschmitts as Bombers

The next expedient adopted by the *Luftwaffe* was the use of Messerschmitts as day-bombers. It was resorted to, in fact, at an early stage in the Battle of Britain. 'The German Messerschmitt 110 shot down into the English Channel by a Hurricane yesterday evening', said an Air Ministry Bulletin (No. 1186) of July 22, 'was the first to be used over these shores as a bomber. A second Messerschmitt 110 bomber, attacked by another Hurricane, was last seen on fire. Designed as a long-distance fighter, the Messerschmitt 110 can be converted to carry a bomb load.' It can load two bombs of 550 lb. each, while the Messerschmitt 109, with its single engine, can carry a weight of bombs of something less than half that amount, say 450 lb. in all. The use of the latter type of machine as a bomber was noticed a few days later. 'New methods have been used during the week-end by the German Air Force,' said an Air Ministry Bulletin (No. 1245) of July 29, 'to make their tip-and-run raids on British harbours safer. Messerschmitt 109's single-seater fighters, no bigger than Spitfires and Hurricanes, have dropped bombs. These Messerschmitts, fitted to carry a high explosive bomb, fly in high and dive out of the clouds to drop their bombs and then try to make their way home before the British fighters can catch them. The Germans have found that we are taking too heavy a toll of their regular bombers in these coastal raids. They hope by using high-speed fighters to save aircraft and—more important—pilots. But these tactics are not proving too successful. During the past

few days Spitfires and Hurricanes have shot down at least thirty-one Messerschmitt 109's. In yesterday's fight off the south-east of England, Spitfires shot down five of them and damaged several others.'

Armour and Armament

Another way in which the Germans sought to reduce their losses in the day-time was the fitting of armour plating in their aircraft and the increase in the armament of their bombers. At first neither the airmen nor the petrol tanks in the German machines had been protected as well as those in the British aircraft, and it was not until the war had been in progress for some time that the German equipment was improved in this respect. The armament of the bombers was also totally inadequate; reliance was placed on speed for safety, and this proved to be an insufficient safeguard in view of the higher performance of our Spitfires and Hurricanes. More guns were therefore mounted in the German bombers; the Heinkel 111 and the Junkers 88, for instance, were equipped with guns firing through side-windows in the fuselage. The installation of armour plating and the increase in the fire-power of the bombers made it more difficult for our fighters to destroy enemy aircraft, and the next stage was the equipping of our own fighters with cannons in addition to machine-guns. By the end of the year a number of enemy raiders had been brought down by British fighters so equipped; and the re-arming of our existing types and the bringing of new types with

the increased armament into use were rapidly proceeding.

Anti-aircraft Fire

The success of our fighters by day overshadowed that of the anti-aircraft guns, but the latter contributed substantially to the defeat of the raiders. Frequently the barrage which they put up was sufficient to turn back a formation of bombers before it could reach its objective. On August 19, for instance, seventy German bombers, approaching the Thames Estuary, were met by such a terrific barrage that—as our patrolling fighters testified—the whole formation wheeled about and fled. Even where the guns did not register a hit, their shell-bursts sometimes disclosed the position of raiders to the interceptors and enabled the latter to engage the enemy. They always forced the enemy aircraft to fly high and thus made accurate bombing more difficult. Even at a great altitude the enemy machines were not always safe from their fire. In November, the anti-aircraft gunners at Dover shot down a Messerschmitt 109 from a height of five miles, where it was merely a dot in the sky.

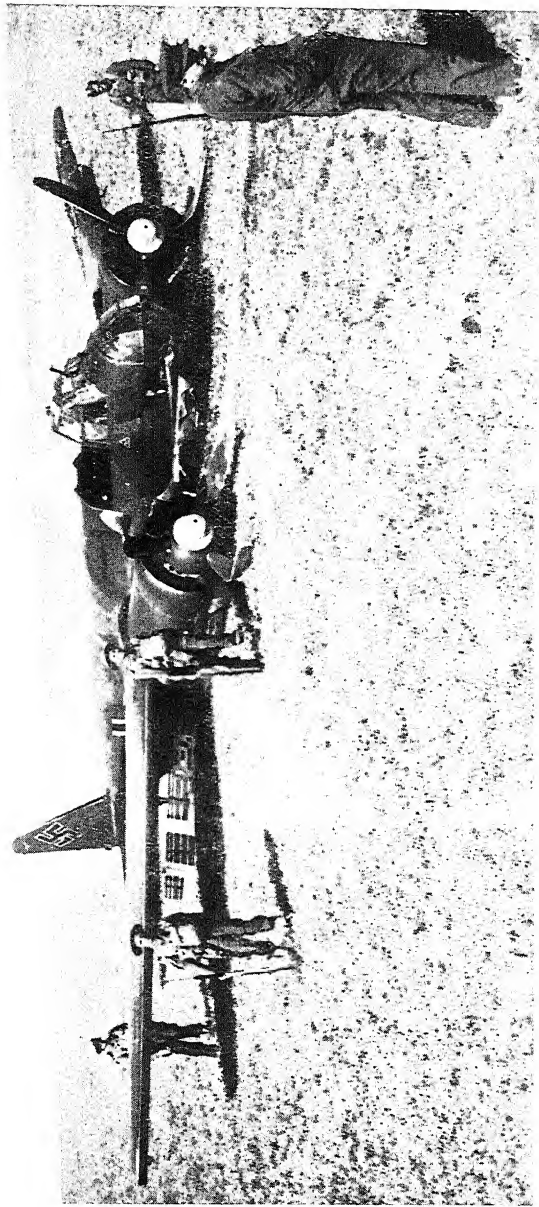
Destruction of German Bombers at Night

The interceptor fighters were also at a loss in dealing with the night-raiders. They depended on the searchlights to find their quarry and the heights at which the German bombers usually flew were so great that that aid was denied to them. There was the further difficulty that our fastest fighters, the

Spitfires and Hurricanes, had insufficient duration for nightwork of this kind. The Blenheim fighter was more favourably situated in that respect but had not the speed necessary to enable it to deal with the faster German bombers; it was apt, moreover, to betray its own position to the enemy by the glowing rings around its engines. Both the Blenheims and the single-engine fighters did succeed, however, in bringing down some of the night-raiders. Indeed, the successes of both the fighters and the anti-aircraft guns in the early stages of the night attacks were distinctly promising.

In the night of June 18, seven enemy aircraft were shot down over this country, six by our fighters and one by anti-aircraft fire. On the following night three more fell, all to the Browning guns of Spitfires. In the night of June 25 at least five were destroyed—three by fighters, one by anti-aircraft fire and one by a fighter after it had been damaged by anti-aircraft fire. Three more were destroyed on the next night, a Hurricane, a Spitfire and a Blenheim fighter sharing the honours. In the night of June 30, two were brought down by fighters. During July a few more were destroyed, the most remarkable achievement being that of a single Spitfire pilot who shot down two over the English Channel on the night of July 7. In August the fighter and ground defences had a few more successes, but it was not until September that the toll taken of the night-raiders began to approach the figures for June. In the night of September 4 a Blenheim fighter shot down a Heinkel 111 and a Dornier 17 shortly after midnight. Each

of the bombers was held in searchlight beams until our pilot could approach closely enough to make an effective attack. Two bombers were shot down by anti-aircraft in the night of September 13, two more on the next night and a third by fighters, and on the night following (September 15) two more were destroyed by our fighters. A still more signal success was achieved on the night of September 17 when five were destroyed, four by anti-aircraft guns and one by fighters. (An exactly similar bag was obtained by the guns and the fighters on the night of January 19, 1941.) The ground defences had successes again on the nights of September 19, 23 and 29. There were further successes in October, the number of bombers destroyed on the nights of October 20, 25, 26 and 28 being four, two, three and three, respectively. There were three particularly good nights in November—November 1, 15 and 19—on each of which five enemy aircraft were destroyed. In the night of November 24 three were shot down. A few more instances of destruction during darkness occurred in December. On December 13 the German News Agency stated that during the raid of the previous night on Sheffield ‘machine-gun fire coming from night fighters was observed’. That such a statement should be made was evidence of the increased activity of our night-fighters. Further proof of this was forthcoming in the new year. On the night of January 15, two bombers were shot down by a single pilot in the eastern vicinity of London. The anti-aircraft guns, too, continued to make hits, and it is fairly certain that the scores claimed for them do not



Central Press Photos Ltd.

A GERMAN BOMBER'S FATE

A Junkers 88 bomber shot down in the Battle of Britain

represent the full damage which they did. It is probable that many of the raiders, winged by our guns, either failed to reach their base or crashed on landing. The German bomber crews were very far from underrating the effect of our ground defences.

The Effect of the Ground Defence

'There is no doubt', said an Air Ministry Bulletin of November 9 (No. 2210), 'that German airmen have learnt to respect our anti-aircraft defences. Even when broadcasting the Nazi pilots have openly admitted their dislike of our A.A. fire and of the London barrage in particular. This great barrage was first heard by Londoners on the night of September 11. German experts argued that such a tremendous concentration of fire must mean the weakening of the A.A. defences elsewhere. They imagined that the guns had been brought to London at the expense of other towns and cities. The experience of the past two months has disconcerted them. Many of the German raiders destroyed by A.A. fire since the London barrage first went up have been shot down in other parts of the country. They have crashed all over England (Britain?) from John O' Groats to Land's End.'

The Fighters' Difficulties

The practical difficulty for the ground gunner and the interceptor pilot alike has been the finding of his quarry in the wide expanse of darkened sky that has to be searched. The night-flying pilot of a fighter is at a great disadvantage. Unable to hear anything on

account of the noise of his engine or engines, unable to sight his quarry in the murky darkness, he has a heart-breaking task in hunting down the enemy raider. Not all the luck which befell the rear-gunner of one of our patrolling aircraft on a night in November comes his way. This gunner—Sergeant J. D. Culmer, peering into the blackness, suddenly saw a big German bomber, a Heinkel 111, lit up by a questing searchlight just fifty yards away. It was a 'sitter'. He took full advantage of his golden opportunity; a burst of fire sent the Heinkel crashing to earth.

Fighters Shot Down by Bombers

The German anti-aircraft defences and interceptors have been equally powerless to prevent our bombers from penetrating deeply into the heart of Germany. Some successes they have had, but these have been few. One officer, Lieutenant Streib, received the Iron Cross for bringing down three British aircraft in one night.¹ Possibly he did; this kind of achievement should be verifiable within Germany itself. The percentage of effective interception has, however, been extremely low, and no German bomber flying over this country by night has succeeded in doing what our bombers have done more than once over Germany. Our bombers have shot down enemy fighters at night. One such instance was recorded in Air Ministry Bulletin (No. 963) of June 27; one of our bombers, it was stated, shot

¹ *The Aeroplane*, November 29, 1940. It was stated that he had shot down seven in all by night.

down a Messerschmitt 109 during a recent raid into Germany. (It was stated unofficially to have been the raid of June 25.) A Heinkel 113 fighter was shot down by one of our bombers on the night of July 20 (A.M.B. No. 1178), and a Messerschmitt 110 on the night of July 23 (A.M.B. No. 1206). Other successes of the same kind were achieved on the night of November 15 (A.M.B. No. 2279), December 9 (A.M.B. No. 2487), and December 10 (A.M.B. No. 2497). Instances are on record, too, of enemy *bombers* being shot down by *our* bombers. One such case was quoted in an Air Ministry Bulletin of August 27 (No. 1511). A British bomber, returning from a raid over Germany, met a German bomber returning from a raid over England and preparing to land at the aerodrome at Nivelles, south of Brussels, where the flare path was lit up; our bomber attacked and destroyed it. A still more remarkable feat was the destruction of *two* German bombers (a Heinkel 111 and a Junkers 88) by one of our bombers in France on the night of June 12 (A.M.B. No. 887).

Effect of the Balloon Barrages.

Disappointment has sometimes been expressed with the work of the balloon barrages and their failure to prevent the enemy raiders from bombing areas in which they have been installed. Their purpose has not, however, been to close such areas against the raiders, or, for that matter, to destroy the latter. The object of the barrage is to force the bombers to fly at such a height that accurate bombing of vulnerable points is impracticable. In this

object they have succeeded. Actually, they have brought down some enemy bombers. An Air Ministry *communiqué* of June 23 announced that two bombers had been destroyed by the balloon barrage on a recent night. A *communiqué* of July 22 stated that it was now established that an enemy aircraft struck a balloon cable in a recent night raid and was destroyed. A similar success was announced in a *communiqué* of September 13, and three further instances of the destruction of enemy aircraft by collision with balloon cables were announced on September 17 and 29 and October 13. Barrage balloon cables have brought disaster to our own aircraft more than once. An Admiralty *communiqué* of December 12, 1939, stated that an aircraft of the Fleet Air Arm collided with a balloon cable near Southampton and crashed, the crew of four being killed. One of our bombers collided with a balloon cable in the night of June 5, 1940, on the north-east coast; as a result two civilians were killed and three injured, and one of the crew was killed also.

German Boasts and the Facts

It is evident that the German balloon barrages must have been far from fulfilling the expectations formed of them before the war. In February, 1939, it was announced that Berlin and other cities would soon be protected by balloons which were capable of reaching a height of *six miles*, and great hopes were reposed on the aerial 'minefields' by which all the larger towns were to be protected.¹ Indeed, the anti-

¹ *The Times*, February 23, 1939.

aircraft defence in general must have proved a great disappointment to the more sanguine Germans of that time. 'Should British bombers try to attack German towns,' said the *Lokalanzeiger* of July 12, 1939, 'not a single one would succeed in its purpose, so good are the German defences.'

Actually, as we know, our bombers have suffered comparatively small losses in their raids into Germany. They have driven deep into the country, flown over Poland, Czecho-Slovakia and Austria, cruised over Berlin and other strongly defended areas for long periods, and released their bombs from heights far lower than any from which German bombers have dropped theirs. It is evident that the Flak, the balloon barrages and the night-fighters have no terrors for our bombing airmen.

Ministerial Statements on Night Bombing

Meanwhile, the problem of the night-bomber remains to be solved by the Germans and ourselves alike. The under-Secretary of State for Air, Captain Balfour, stated in the House of Commons on October 9 that new methods aiming at interception of the night-bomber were being worked at, night and day. It was wrong, he said, to give an impression that in a week or two the problem would be solved. 'It was a process of evolution, of trial and error, and even if we achieved success with new devices, new instruments or new methods, the public should never be told that some raiders were not going to get through at all times.'

Such a statement was a healthy corrective of

some unduly sanguine forecasts which had appeared in the Press. In *The Observer* of September 22, for instance, Mr. J. L. Garvin had written of the new device which it was then commonly expected was to be adopted to deal with the night-bomber. 'When applied,' he said, 'the new device will enable our fighters to intercept the night-bombers and kill them. It is a device comparable to the brilliant reply to the magnetic mine.' That some progress has been and is being made was admitted by Mr. Attlee, Lord Privy Seal, in reply to a question by Captain Cunningham-Reid in the House of Commons on December 5 in regard to certain optimistic statements which had been made upon this subject, but he was careful to add: 'Both over-optimism and undue pessimism should equally be avoided in public statements.'

Mr. Churchill repeated the warning in the House of Commons on December 19. 'Every method of dealing with air fighting by night is being studied with passion and zeal by a very large number of extremely able and brilliant scientists and officers,' he said. 'So far we have not reached any satisfactory remedy, although we have noticed a considerable improvement in various directions. We must expect a continuance of these attacks and must bear them.' Such a statement was in striking contrast with that of Air Marshal Sir Philip Joubert, who, in a broadcast to America in September, had said: 'We are getting on well with night interception, and I hope to see, during the next few weeks, figures steadily mounting until the proportion of

German casualties by night approaches that by day.'

A later Ministerial statement may also be quoted, though it belongs to the year 1941. Speaking in London on February 25, Sir Archibald Sinclair, the Secretary of State for Air, said: 'We can promise no immunity from night bombing. On the contrary, as the weather improves we must expect the Germans to resume their attacks on a greater scale than ever. They will fail again as they have failed before, and we shall spare no effort, and our pilots will refuse no risk, to make their attacks progressively more costly to the enemy.'

The Solution a Gradual One

Only a gradual improvement is to be expected in view of the particular difficulties to be overcome in the three-dimensional space that is concerned. Something is needed that will enable the hunter to 'feel' for his quarry where visual perception is but rarely practicable. Suppose resort is had to the magic of the latest science that enables, for instance, the homing air liner to reach its aerodrome in fog. The blind-landing which the Lorenz beacon has made practicable might possibly be the inspiration for the development of some kind of new device that will enable the night-bomber to be detected. But such a scientific advance would be only the beginning of the story.

To enable the gun-crew or fighter pilot to make contact with the raider in the dark the scientist's device must first be made, not indeed fool-proof, but

fit to stand the stresses of actual use in service and the mischances of various kinds to which it is not subject in the scientist's workshop, but would be in the field. It has to be developed into a workable prototype, and that prototype has then to be multiplied. If the instrument or device is to be effective—for the sky is large—it must be available in great quantities. The reproduction of it, after it has been perfected and proved by actual trial to give the desired results, takes time. Then, too, the special type of aircraft needed for night-flying on interception duty has to be constructed, and constructed, again, in great numbers. That cannot be done in the twinkling of an eye.

Pilots and other specialists, moreover, have to be trained. Practice makes an enormous difference in night-interception. Some of our pilots are already highly proficient in this respect. Flight-Lieutenant John Cunningham of No. 604 (County of Middlesex) squadron, has destroyed two enemy bombers at night and made many other interceptions, and Pilot Officer R. P. Stevens, No. 151 squadron, has also destroyed two, both in one night. Both were awarded the Distinguished Flying Cross in January 1941. Sergeant A. McDowall received the Distinguished Flying Medal at an earlier date for 'a brilliant head-on attack at night'. Squadron Leader A. V. R. Johnstone, Flight Lieutenant G. E. Ball and Pilot Officer T. A. Vigors were others who were decorated for (*inter alia*) destroying enemy aircraft at night. The adoption in November, 1940, of a new trainer specially designed for night-flying—the

Owlet—was evidence of the importance attached by the Air Ministry to early instruction in this kind of operational duty.

Eventually, this baffling problem of the night-bomber will be solved—solved in the sense that far more bombers will be brought down; a few will always slip through. By what date a solution will be reached no one can safely predict.

CHAPTER X

Summary and Conclusion

The Battle of Britain

The Battle of Britain has been in progress for more than six months at the time when these words are written. Its climax has probably not been reached as yet. Grimmer, more terrible experiences await us in 1941. We shall be tested in fire. It is premature to attempt to tell the whole story yet, but at least the first chapter of it can be placed on record: the chapter which covers the great events of June to December, 1940. We had our backs to the wall in the first of these months. We were at least lunging forward to the attack in the last of them. We have much to be thankful for, in these days of trial and glory. There are lessons to be drawn from them, too, and some of those lessons are set forth here.

It has been a heroic drama of which the opening scenes only have been staged as yet. It succeeded the heart-breaking tragedy of the Battle of France. That was a re-telling of the pitiful story of 1870, a re-writing of *La Débâcle* in terms more poignant than those of Émile Zola. France fell, and Britain was left to fight alone. The Battle of Britain has been unique in modern history in that, in a European conflict, we have had not a single European nation fighting

on our side—until gallant Greece, far from its scene, threw herself in the path of the Italian bully. We have had individuals of the defeated nations with us, it is true, and they have fought splendidly, but they have been only a handful of men.

We shall have many more with us, we can safely expect, before this war draws to its close. Perhaps history will repeat itself in yet another direction. Already the people of the United States realise that this conflict in which we are resisting the autocrats and the forces of evil is a second war of Emancipation. Will the logical conclusion be drawn in time from that realisation? Will America see again 'a fiery gospel writ in burnished rows of steel'? Will she determine again to free the slaves, the victims of the newer and more brutal tyranny which holds whole nations under the lash? Already she is helping us magnificently. The giant plants of the west are forging and hammering out the weapons of war for us in increasing volume. Thank God for that! But what if those weapons could not reach our shores? Would not the whole purpose of all that colossal effort of construction be stultified then?

The Battle Opens

It was on June 18 that the Battle of Britain began. The *Luftwaffe* opened then its operations against our coastal waters and ports, the shipping which sailed within reach of its bombers, and the air bases in south-east England. From July 8 the attacks on shipping in the English Channel and its approaches intensified and reached their peak a month later,

when the Germans suffered their first heavy defeat off our shores. They lost sixty aircraft on August 8. Before that, a short but fierce assault on Dover, on July 29, had been smashed; fifteen German aircraft—Junkers 87's and Messerschmitt 109's—were destroyed in half an hour and twenty-one in all were shot down on that day. We lost two fighter pilots. It was an omen of better things to come.

In the great battle over the Channel on August 8 we paid a higher price for our victory. Sixteen of our fighters were shot down, but three of the pilots were saved. The sixty German machines shot down were again mainly dive-bombers and Messerschmitts, both of the single-engine type. Three days later, on August 11, the Germans sustained another heavy defeat; again they lost sixty aircraft, and this time a large number of twin-engine Messerschmitts were included in the total. We paid a heavier price in our most precious metal than on August 8: twenty-four of our pilots were lost and twenty-six of our aircraft. Next day (August 12) the balance-sheet was better for us. The Royal Air Force and the anti-aircraft gunners destroyed sixty-two of the German aircraft which delivered a mass-attack on harbours, aerodromes and shipping on that day, and our loss (twelve pilots and thirteen machines) was exactly half of that of the preceding day. Better figures still were produced by the heavy fighting on August 13. Seventy-eight of the five hundred German aircraft which attacked our coast from Kent to Hampshire and our aerodromes, were destroyed, at a cost to us of three pilots only; thirteen of our machines were

lost but ten of the pilots escaped. Again, on August 14, we lost three pilots, but they and their comrades destroyed thirty-one German aircraft.

The Fifteenth of August

Then came the day of glory for the Royal Air Force—the greatest, up to that time, in all its history. On August 15 the sky of southern England was darkened by the wings of the greatest armada of the air which had as yet swept across our frontiers. A thousand German aircraft came that day, Heinkels, Dorniers, Junkers, Messerschmitts, to smash our defences and drive our outnumbered fighters out of the air. Before night fell, 180 of them had been sent crashing to the ground or into the sea. Many more, we can be sure, never returned to their starting points. We lost thirty-four fighters, but seventeen of the pilots escaped: an extraordinarily small price to pay for the elimination of at least five hundred enemy airmen. No other Air Force in the world could have achieved such a victory; only the Royal Air Force itself could surpass it—as it did by a still more resounding triumph exactly a month later.

The Victories Continue

Our fighter squadrons' aerodromes had been a main target of attack on August 15. They were again next day, and again the enemy paid heavily for his temerity in challenging the Royal Air Force on their home ground. He lost seventy-five aircraft on August 16, and the proportion of casualties was as high as on the day before; we lost twenty-two

fighters, but fourteen of our pilots were saved. Two days later, on August 18, another mass-attack was launched and smashed; our fighters and anti-aircraft gunners destroyed 152 German aircraft, a quarter of the whole force engaged. We lost twenty-two machines and twelve pilots. A brief respite followed and then the battle 'sheared up like a wave' once more. On August 24 fifty German aircraft were destroyed, on August 25 fifty-five, on August 26 forty-seven, on August 27 five, on August 28 twenty-eight, on August 29 eleven, on August 30 sixty-two, on August 31 eighty-eight; a total of 346. Our losses for the same period amounted to 132 machines and fifty-seven *personnel*. In the whole *mensis mirabilis* of August the Air Force alone destroyed 957 German aircraft over and around this country and itself lost only 297 machines. It went on to establish a remarkable coincidence by destroying precisely the same number in September, during which month, however, it lost 318 machines.

In September the enemy continued to feel his way towards London, by day; he had reached it by night on August 24, when bombs were dropped on the capital for the first time. He lost heavily all the time. On September 1, twenty-five German aircraft were destroyed, on September 2, fifty-five, on September 3, twenty-five, on September 4, fifty-four, on September 5, thirty-nine, on September 6, forty-six, on September 7, ninety-nine. It was on the last date that the *Luftwaffe* succeeded at last in overflowing our line of defence and in penetrating to the dock districts in the Thames and the east-end of London.

Many large fires were started there on the evening of that day, and these served as a beacon to the bombers which followed in waves throughout the night. It was the first of many visitations which London was to endure. Civilian casualties, especially among the humble folk of the east-end, were heavy.

The Fifteenth of September

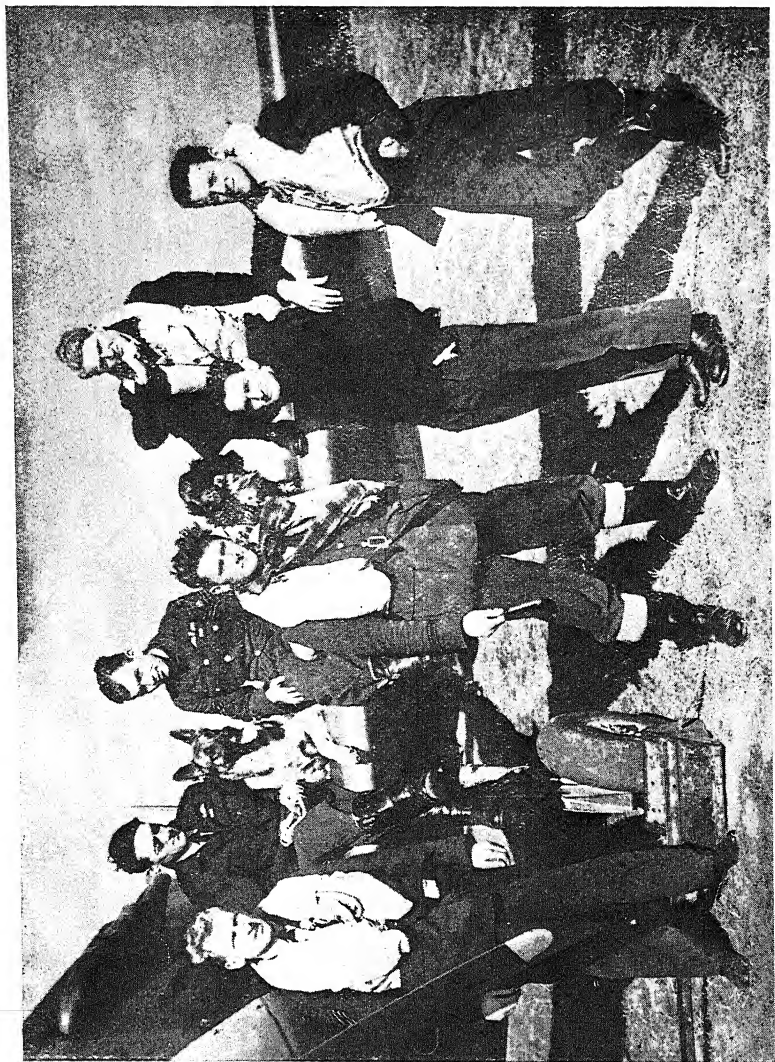
Meanwhile, the daylight attacks went on, despite the losses inflicted on the raiders, of whom fifty-two were shot down on September 9 and eighty-nine on September 11. These and all previous figures of losses were eclipsed on September 15, when the *Luftwaffe* sustained the most crushing defeat in its history. In a series of battles which flashed and flickered in the sky above Maidstone, Canterbury, the Medway, the Thames Estuary, London itself, away southward to Hastings and Beachy Head, to Southampton, to Portland in the west, our fighters met and shattered the enemy legions of the air. They destroyed 178 German aircraft on that day, while the ground defences accounted for seven more. These were the confirmed crashes; and there is little doubt that, in point of fact, the total German loss was considerably greater in any case, the victory of the Royal Air Force was an amazing achievement. Its cost was twenty-five fighters, but fourteen of the pilots were saved. In terms of *personnel* we lost *eleven* pilots that day to put at least *five hundred* German airmen out of the war.

The bags of forty-eight enemy aircraft on September 18, of twenty-six on September 25, and of thirty-

four on September 26, were modest in comparison, but the Royal Air Force had another of its days of triumph on September 27, when the *Luftwaffe* lost 133 aircraft. We lost thirty-four, the pilots of sixteen being saved. To appreciate the significance of this and the other 'centuries' which the Royal Air Force scored, one must bear in mind that the greatest number of enemy aircraft destroyed on any one day in the last war was sixty-eight (on October 30, 1918).

The Few Who Saved the Many

In August and September the German air force, the spearhead of Nazi aggression, suffered a series of smashing defeats which impressed the whole world, and suffered it at the hands of a numerically inferior force. Who were the men who exacted this appalling price from the German airmen for their trespass upon our domain? They were and are the fine flower of our race, and not of ours alone. They number in their ranks gallant helpers from many lands, speaking divers tongues. There are Poles among them, men of almost incredible audacity, there are Czechs, some, like Josef Franzek, born killers in air combat, there are men of all the overwhelmed nations. There are Canadians, magnificent fighters in any company, equally renowned in our Air Force and in their own, Australians, New Zealanders, South Africans, men from every Dominion and Colony. Splendid indeed has been the contribution of these wonderful young airmen from overseas to our common victories in the air. It is not to undervalue their achievements to claim, nevertheless, pride of place



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A HANDFUL OF THE SPLENDID FEW

A group of Spitfire pilots relax after a battle

for the young men born and bred in the homeland. It has been above all by the sons of this island that its skies have been swept—as if each carried a broom at the fore—of the invaders who came to challenge our supremacy in the air.

They are men of every social class, of every trade, profession and calling, 'duke's son, cook's son, son of a millionaire', and all the rest. The public-school boy, the board-school boy, the rich young man, the youth from a humble home, the shop assistant, the clerk, the mechanic, the ex-apprentice, all are to be found in our new list of the heroes of the air. It is a glorious list already and it is lengthening every day. There are in it names which are beginning to rival those of the giants of air combat of the last war. What will it be a year, two years hence? The greatest days for the Royal Air Force may still lie ahead and new glories may eclipse the old.

There are included in its roll of squadrons veteran units of the last war, now winning fresh renown. There are squadrons which existed then, were disbanded and have been reformed: No. 74, for instance, with its old and new laurels. There are squadrons whose lack of battle-honours is a defect which their members have already made good in no half-hearted measure. There are the squadrons of 'week-end' flyers, the Auxiliary Air Force or County squadrons—and what a wonderful record is theirs! Some of them have destroyed more than a hundred enemy aircraft during the Battle of Britain. It was well said that they 'lost their amateur status' long ago.

The Elixir Tradition

The elixir which Sir Walter Raleigh found in the Air Force of 1918 is still to be found in the Air Force of today. 'The air service still flourishes; its health depends on a secret elixir of immortality which enables a body to repair its severest losses. The name of this elixir is tradition, and the greatest of all the achievements of the air service is that in a very few years, under the hammer of war, it has fashioned and welded its tradition, and has made it sure. Critics who speak of what they have not felt and do not know have sometimes blamed the air service because, being young, it has not the decorum of age. The Latin poet said that it is decorous to die for one's country; in that decorum the service is perfectly instructed.... The Royal Air Force is strong in the kind of virtue that propagates itself and attains to a life beyond a life. The tradition is safe.'¹

The Civilian Casualties

The task of our fighter squadrons did not end with the crushing of the massed attacks of August and September. The *Luftwaffe*, heavily as it had suffered, was able out of its immense reserves to continue the onslaught, but, wisely, contented itself for the most part with raiding under cover of darkness. Through October and November London had still to endure its ordeal by fire. The raiders, checked by day, were able to penetrate our defences at night at the cost of only slight losses. Other cities, too, now became the targets of more damaging strokes. Coventry, Bir-

¹ Sir Walter Raleigh, *The War in the Air*, I. 14.

mingham, Bristol, Southampton, Portsmouth, Manchester experienced heavy raids. The civilian casualties were grievous and the damage to property was widespread and, in many centres, serious. Nevertheless, the figures for September when the attacks were mainly concentrated upon London remained unsurpassed, the casualty-graph declining in the subsequent months. The figures from August onwards were:

August	1,075 killed,	1,261 injured.
September	6,965 „	10,615 „
October	6,334 „	8,691 „
November	4,588 „	6,202 „
December	3,793 „	5,044 „

'Injured' was qualified in the earlier returns by the prefixing of the word 'seriously' and in the later returns by the addition 'and admitted to hospital'.

Our War Effort Goes On

Lamentable as these losses were, they amounted, when viewed against the background of the war, to comparatively moderate totals. They are reduced to to their proper proportions when brought into relation with the casualties to which we became accustomed twenty-five years ago. In sixteen months of war, Mr. Churchill stated in the House of Commons on January 22, 1941, we had now lost 60,000 people, half of them civilians—a figure less than that of the death roll in many of the protracted battles of the war of 1914-18. Furthermore, the casualties then were of military consequence. Most of those of this later war are not—that is the pitiable futility of total

war—and the effect of them upon our war effort is negligible. All the death and destruction which the German air attacks have caused have not led to any serious dislocation or interruption of our production of armaments. Mr. Bevin, the Minister of Labour, was able to make a reassuring statement upon this point on January 21, 1941. Our output of war material of all kinds had mounted, he said, in spite of the bombing attacks.

The Threat of Invasion

Meanwhile, our own counter-offensive, which was as essentially a part of the Battle of Britain as were the defensive operations of the Fighter Command, was being steadily maintained. The objectives against which it was directed varied from time to time, as the military situation demanded. During September one particular class of targets received special attention. The date of September 15 has a significance other than that to which the magnitude of Germany's attempt on that date to smash our air defences and the crushing defeat of that attempt would in any case entitle it. It was also, there is reason to believe, the date fixed, approximately, for a projected invasion of this country—an invasion in which both airborne and seaborne forces would have taken part. There is a good deal of evidence to support the supposition that a plan of this kind was prepared for execution in mid-September. It could have no hope of success unless the German air force could first establish a temporary supremacy over south-eastern England, and that preliminary condi-

tion remained unfulfilled as a result of the shattering blow which the Royal Air Force struck at the *Luft-armada* on September 15—a blow which was the culmination of a series of others delivered in the preceding five weeks.

The Slaughter of the Stukas

Our Spitfire and Hurricane pilots wrecked the German plan at two points. They smashed the attempt to win the local command of the air, and they had already played havoc with that constituent part of the German air force to which a prominent and essential role in the programme of invasion would have been assigned. They had practically driven the single-engined dive-bombers, the Junkers 87 B's or Stukas, out of the air; and it was on the Stukas that the Germans relied above all for the success of their plan. The Stukas, used in combination with mechanised forces on the ground, had been the 'chosen instrument' employed to reduce Holland, Belgium and France to submission in quick succession. Its career of triumph as the spearhead of invasion came to an end in August. It was simply cannon-fodder—or, rather, Browning-fodder—for our fighters. They shot the Stukas out of the sky. They massacred them on August 15. Never has any type of aircraft been so cruelly handled as was this one over and round our coasts in that month.

The Invasion Ports Bombed

That was not all that the Royal Air Force did to call a halt to the plan of invasion. At the beginning

of September it became apparent that preparations were being made for an attempt to transport large forces across the Channel. Ships and boats of every kind were being assembled on the coasts of the Low Countries and northern France; there were some gathering in the Norwegian ports, too. Self-propelled and towed barges began to move down the inland waterways and then along the coasts facing southern Britain. Merchant vessels were also being collected in large numbers. Invasion was in the air. We in southern England heard rumour after rumour of its imminence. The Government expected it, too. Mr. Churchill warned the country on September 11 that it might come at any moment. His words were solemn. The nation waited in anxiety but not in fear.

Then the Royal Air Force bombers struck. They hurled themselves upon the 'invasion bases' on the French, Belgian and Dutch coasts. They dumped high explosives by the ton upon all possible sally-ports, from Antwerp to Le Havre. They sank the barges, damaged the ships, set the quays and jetties and dock-side warehouses ablaze. Night after night the sky across the narrow sea was aglow with the fires which they caused. The smoke which followed was seen each morning rising in billows over the French coast. Dwellers in Kent heard the thud and roar of the bombs while their houses shook with the reverberation.

One particular series of raids was especially damaging. It is believed to have caught the German soldiers and sailors just at the moment when a kind of 'dress rehearsal' was being staged and to have

resulted in the killing and wounding of thousands of the troops embarked. There were certainly heavy demands on hospital accommodation in occupied France just about that time, in mid-September. Bodies of uniformed Germans continued, too, to be washed up on our shores for some days after that date. The plan was frustrated. The threat of invasion remained, however—indeed, it remains still—and the Royal Air Force continued to plaster the potential bases of the expedition with bombs.

The Danger from Blockade

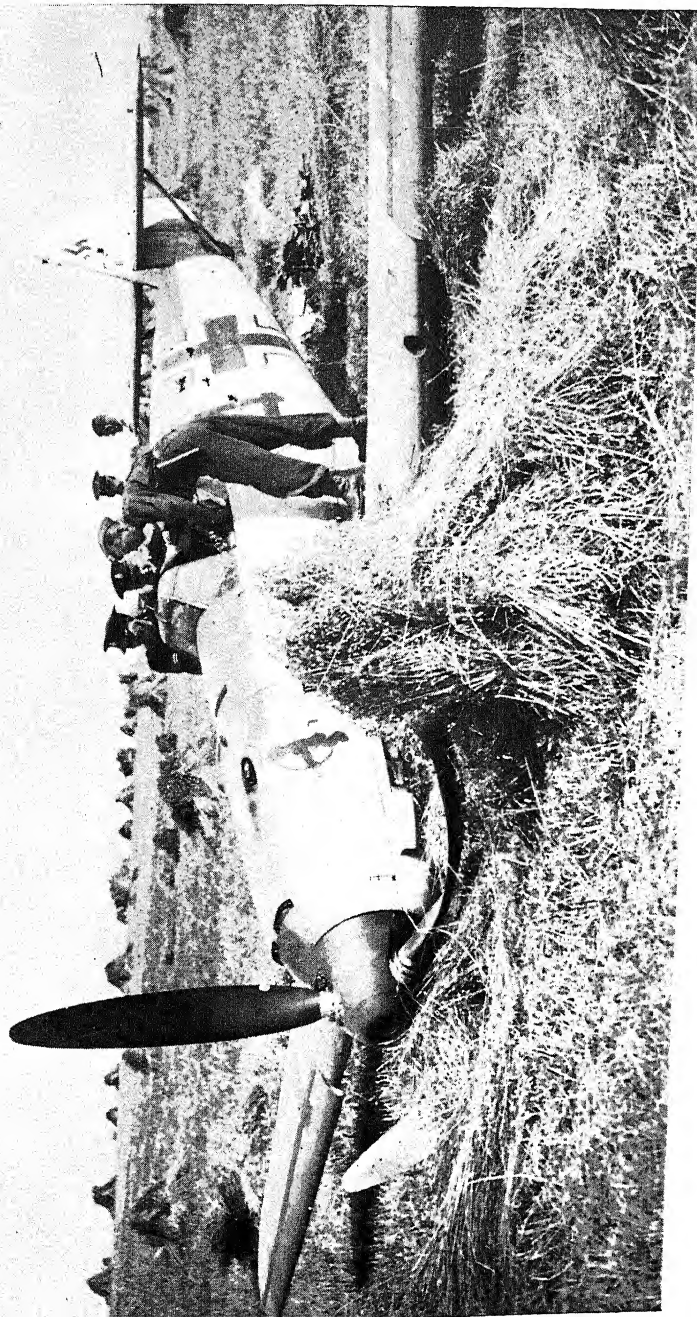
Another task, too, fell to our air striking force. It was not on invasion alone that Hitler's hopes of reducing this island to submission were placed. He had a second string, and it was a bow-string—the throttling, strangling string of blockade. The danger that threatened our maritime communications was greater than in the last war. The Germans were never then in possession of the Channel ports and bases on the Atlantic coast. Now, too, they had sea-going aircraft of a range and power unknown then to supplement the forays of the U-boats. The combination of the more widely based submarine operations and of the extended use of aircraft for commerce-raiding was a very grave menace to our shipping.

Before the collapse of France the losses due to submarine action had been reduced to tolerable proportions. After that unhappy event they mounted steeply. Moreover, Italian submarines were now operating also in the Atlantic and the Mediter-

ran. Every effort was made by our Government to deal with this grave threat to our security. The Royal Air Force were called upon to help. They did so promptly and effectively. Not only were the Sunderland flying boats, Hudsons and Ansons of the Coastal Command active, as always, along the shipping routes, conveying merchant vessels, hunting U-boats and engaging hostile aircraft, but our Bomber Command, too, took a direct part in the operations against both the submarines and the sea-going aircraft. Its bombers struck a series of heavy blows at the bases from which both operated. Lorient, Cherbourg, Brest, Merignac were repeatedly bombed. So, too, were the shipbuilding yards in Germany where the submarines were constructed. The reduction in the rate of tonnage sunk in the closing weeks of 1940 was due, no doubt, in part to the damage inflicted in these recurrent raids. Yet the danger still remained and will be intensified, in all probability, in 1941. It is perhaps for us the greatest danger of all those that encompass us.

Air Bases in German-occupied Territories

The targets attacked in German-occupied territories included also the aerodromes from which the German bombers set forth on their nightly raids against this country. These were a principal objective of the Bomber Command of the Air Force in the autumn of 1940. One particularly successful operation was carried out by powerful bomber formations during the night of December 6. It was directed against air bases in France and the Low Countries.



HARVESTS OF PEACE AND WAR

A Messerschmitt 109 fighter shot down in a cornfield near the south-east coast on 12 August, 1940

The aerodromes at Chateaudun, Melun, Chartres, Ypenburg, Le Touquet, Vitry-en-Artois, Le Culot, Etrepagny, Brussels, Rotterdam, Trond, Eindhoven and other places were heavily bombed, some of them more than once. On many nights between twenty and thirty enemy aerodromes were attacked.

The War Carried Home to Germany

These operations were but a part of those included in the wider programme of the Bomber Command. Objectives in the interior of Germany were bombed relentlessly while the Battle of Britain was raging round and over England. This part of the Battle was unseen by those who bore the brunt of it at home, but it was as important a part as that which was visible. The bombing of the hinterland of Germany, began, indeed, about a month before the Battle of Britain started (mid-June). Whether it ought not to have begun before will long be debated. The fact that until then no attempt was made on either side to carry the war into the enemy's country was the cause of surprise and bewilderment alike in Britain and in Germany. In Britain, it had been expected that terrific attacks would be made on London. In Germany it was expected that they would be made against Berlin. Referring to the British declaration of war, Dr. Goebbels said in a speech at Poznan on January 19, 1940: 'One would have expected that on the afternoon of that very day their much-vaunted bombers would have appeared over Berlin.' In both capitals a measure of relief was felt that the bombing had not started at zero-hour—or before it.

The Lost Opportunities of 1939

What was still more extraordinary was the failure of the *Luftwaffe*, on one side, and of the British and French air forces, on the other, to interfere with the great troop concentrations which took place in September 1939 and thereafter. As long ago as 1927 Lord Thomson, the former Secretary of State for Air, had written that 'should such a calamity as another world war occur, hostilities will begin at once, there will be no breathing space of ten days or a fortnight for mobilisation. . . . In these circumstances the embarkation of the British Expeditionary Force would have been hampered, if not prevented, and a number of our warships would have been disabled before they could put to sea.'¹ Yet the British Expeditionary Force of 1939 had been able to embark, to cross to France, to disembark there and to move up to the line, without let or hindrance. There might have been no German air force whatever for all that that great army, moving with its *impedimenta*, knew about it in September 1939, or in the months following in which reinforcements for it crossed to France.

A still greater surprise, to the well-informed, was the abstention of the British and French bombers from interfering with the huge concentration of the German forces in the west. Britain had sent a strong 'Advanced Air Striking Force' to France in the first days of the war; and the French had their striking force, too. Neither struck. Division after division moved from the east to the west of Germany. They

¹ *Air Facts and Problems*, 1927, pp. 21-22.

did so in perfect peace. 'The extraordinary thing', wrote Mr. E. Colston Shepherd, 'is that while they held the initial command of the air in the west, the French and British Air Forces did not attempt to prevent the swift transfer of troops by concentrated bombing on railway junctions, roads and aerodromes up to a hundred miles or more behind the German lines. The bombing fleets had been built for just such a purpose.'¹

The Fear of the Riposte

Not until after the end of the war shall we know, probably, the full reasons for the strange quiescence in the air in its early stages. *Prima facie* it appears as if each side lost a golden opportunity. It is evident that none of the belligerents was inclined to initiate air attack upon the enemy's territory. *Why* each of them held back is not entirely clear, though many different reasons could be suggested for the mutual restraint shown. At the back of all the reasons there was, one must surmise, the working of the balance of air power. Each feared the other's *riposte*.

In a speech at the Rheinmetal-Borsig armament factory on September 9, 1939, Field Marshal Göring said: 'If the British aeroplanes fly at tremendous heights at night and drop their ridiculous propaganda in German territory, I have nothing against it. But take care if the leaflets are replaced by one bomb. Then reprisals will follow as in Poland.' (Later, the propaganda-film, *Baptism of Blood*, was made in Germany to show what this threat of

¹*The Aeroplane*, October 5, 1939.

frightfulness meant in practice). 'We shall return blow for blow' said M. Daladier on November 30, 1939. 'If the destructive fury of the enemy falls upon our villages we shall strike back at him with the same harshness.'

The Bombing of Oil Plants

It was Germany's superiority in the air which brought Britain's intervention in Central Norway to a premature and unsatisfactory end, and it was the same superiority which deterred the Allies from taking the initiative in raiding military objectives in Germany. There were hundreds of objectives there simply shrieking for attention from their long-range bombers. There were the oil-fuel installations, for instance, yet it was not until May 17 that any attempt was made to destroy these vital sources of Germany's armed strength. On that night British bombers attacked the petrol storage tanks at Hamburg and Bremen; they repeated the operation on later occasions and included the tanks at Hanover also, for luck, and by the end of the year the oil refineries or synthetic plants not only in these centres but at Bohlen, Bottrop, Cologne, Emmerich, Frankfurt-am-Main, Gelsenkirchen (raided forty times), Homburg, Kamen, Kastrof-Rauxel, Leuna, Magdeburg, Misburg, Monheim, Politz, Regensburg, Reisholz, Ostermoor, Salzbergen, Sterkrade, Wanne-Eickel, Wesserling had all been bombed. The Germans complained that the Royal Air Force killed and injured civilians in their raids. Possibly they did, but then civilians are likely to suffer if they are

in the vicinity of military targets. In more than one *communiqué* the German High Command charged the British Air Force with making 'random attacks' on non-military objectives. That was only to be expected; it was a good opening for propaganda. What is quite certain is that British airmen did not deliberately attack non-combatants. They aimed solely at military objectives.

Mr. Churchill's Defence of the Early Policy

The policy of waiting before carrying the war into Germany was defended by Mr. Churchill in a speech at Manchester on January 27, 1940. He asked, Ought we to have begun bombing? No, he said, our policy was right. We were not as well prepared as Germany. We were now much better organised and stronger in defences than at the beginning of the war. There had been, he said, a great advance in the protection of the civil population and in the punishment which would be inflicted upon the raiders. There were others who took a different view, and the question was a very difficult one, but it is significant that the policy was changed immediately after Mr. Churchill became Prime Minister.

Some Criticisms

Many prominent people were far from satisfied with Britain's policy of restraint. Mr. Amery and Mr. Duff Cooper, both out of office at the time but soon to become Ministers again, pleaded in public

for the adoption of much sterner methods. The view of the aeronautical world was reflected in *The Aeroplane*, which kept hammering away at the same point. Why on earth, the editor, Mr. Colston Shephard, asked in effect, were we not hitting at Germany's strength at its source and bombing Dessau, Bremen, Rostock and Oranienburg, where dozens of new aeroplanes were being produced every week to be used against us? Lord Trenchard, the greatest figure in British military aviation, added his powerful support to their plea. In the House of Lords on May 8, 1940, he asked why we waited, and said that if it was because we had promised not to bomb 'open towns' this meant that Germany need not retain any defences at home. Nobody, he added, wanted to kill civilians, but the people of this country would not shrink from facing whatever risk was necessary to bring the war to a successful conclusion. 'Make no mistake about it. When it suits Germany's book she will hit open towns and all, mercilessly and thoroughly. Why should we await her convenience before striking at German military might in Germany?'

Lord Trenchard's words were prophetic. It suited Germany's book to begin bombing the homelands of the western Allies in the second week of May, when she attacked Holland, where a whole district of Rotterdam was practically wiped out, and Belgium, where Tournai, Louvain, Nivelles and Namur were savagely bombed, and opened the long-expected offensive in the west. German bombers also attacked aerodromes and railway stations at a large number

of French towns. The Allies on their side bombed aerodromes, troop concentrations, mechanised columns on the move, bridges, and roads behind the German lines. The war in the air was thus carried for the first time into the enemy's country.

Our Raids into Germany

Since then the incursions of the Royal Air Force into Germany and of the *Luftwaffe* into Britain have steadily increased in frequency and vigour. Those of the British airmen have been aimed exclusively at the impairing of Germany's military strength. As already stated, oil refineries, synthetic oil plants and petrol storage depots have been among the chief targets. Not only in western Germany, but also as far away as at Leuna in central Germany, at Politz (near Stettin) on the Baltic, and at Regensburg on the Danube have Germany's oil fuel installations been raided with damaging effect. Other objectives of importance for her war effort have also been attacked unremittingly. The aircraft factories in which the Focke-Wulf, Dornier, Fieseler, Junkers, Messerschmitt and other machines are constructed or assembled have been bombed. So have the aero-engine works of the B.M.W. and Daimler-Benz firms. The great Fokker factory at Amsterdam was heavily raided as soon as it had been brought into operation for German purposes. The rail and canal communications of western Germany have been repeatedly bombed. The great railway centre of Hamm, which serves as a clearing house for the whole of the goods traffic of western Germany, was at-

tacked more than eighty times in the six months which ended on December 31. The aqueduct of the Dortmund-Ems Canal, which carries the equivalent of 400 train-loads daily and serves as the chief link between the Rhineland and north-west and central Germany, has been put out of action, repaired, and put out of action again. The inland ports of Duisburg-Ruhrort and Cologne have been repeatedly attacked. The coastal dockyards and ports of Hamburg, Bremen, Wilhelmshaven, Kiel and Emden had been raided on sixty-one, fifty-two, thirty-six, thirty-two and twenty-seven occasions respectively up to the end of the year. Berlin itself has been attacked thirty-five times and the railway centres there have suffered severely. The whole of Germany's industrial and economic system has been seriously affected by the incessant blows rained upon it by the Royal Air Force, and these have ranged as far afield as to Pilsen in Czechoslovakia, where the great Skoda armament works were successfully bombed on the nights of October 27 and November 19.

The Failure of the German Offensive

It is the strongest testimony to the success of our counter-offensive that the Germans should have resorted on their side to the savage and indiscriminate attacks by night against London and other cities in Britain. Those attacks were a confession of failure. The *Luftwaffe* had not been trained for night operations. It was in this respect both technically and professionally far inferior to the Royal Air Force. The

SUMMARY AND CONCLUSION

latter as a result in part of the 'leaflet raids' carried out during the winter of 1939-40 knew the darkened face of Germany as well as it knew that of England. Its *personnel* were highly skilled in night flying. Its *matériel* was, for this purpose, superior to Germany's. The pilots and bomb-aimers had been trained to a pitch not even approached by those of the *Luftwaffe*. Precision of aim was inculcated and practised. Long periods were spent in the search for and exact location of targets. If the designated objective could not be found, and if no alternative attack could be bombed with reasonable precision, no attack was launched. Bombs cost money and it is folly to dump them where they can do no good. Frequently a full bomb-load has been brought home because it could not be dropped on a military objective. There is nothing of blind or indiscriminate bombing in the work of the Royal Air Force. That there is nothing else in the night work of the *Luftwaffe* a great cloud of witnesses could testify.

In 1941, no doubt, the callous, ham-fisted bombing of London and of other British towns will continue. Defence in the air has proved to be more effective by day, less effective by night, than had been expected. In time, no doubt, a solution to the problem of the night bomber will be found, but a proportion of the raiders will always come through. Meanwhile we have to grin and bear our adversity and that is what in fact we have made up our minds to do. That the random, indiscriminate attack to which the once-chivalrous German air force is subjecting our civilian population will break their spirit there is no likeli-

hood whatever. Rather, it is steeling them to a grimmer determination to put an end to the *régime* which can slaughter women and children as a mere incident of its march to world-domination, to stop the wheels of the Nazi juggernaut for all time. It will do something more, too: it will give British air power a freer hand when the day of reckoning comes. There will be little mercy then for the butchers of the air.

The Coming Devastation

Before then we shall ourselves have been tested in the furnace of affliction. No effort that Nazi ingenuity and malice can suggest will be spared to bring us to our knees before we can smash Nazidom. Our shipping will be the object of a concentrated onslaught designed to sever our life-line to the west. Air attacks on a greater scale than any which we have experienced as yet will be launched against us here at home. Invasion may be tried. Devilish schemes are being planned, we may be sure, for our undoing. We have stern days to live through in 1941, harsh trials to endure. They are the price we have to pay for the victory that will follow.

When France fell out of the fight, a terrible necessity was laid upon us: to suffer devastation ourselves; to devastate Germany more terribly still; and so to win. No other choice was left. There had been another, perhaps, before then—the choice of the path that brought us victory in 1918. Our and France's armies might have swept into Germany to complete that advance which we halted all too soon then.

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But that way would have failed in the larger purpose of the war as it did then if it had not had the result of bringing the tragedy of defeat and desolation home to the German people. The other way, the sole way that now seems open to us (unless some uncovenanted opportunity supervenes), will make it certain that, for the first time in modern history, the self-appointed *Herrenvolk* will understand the grim reality of war—war in the homeland. The lesson will be seared into their souls. There will be injected into their hearts and minds a bitter but healing antidote to the poison of Nazi philosophy. *Faustrecht* will be discredited once and for all. All this can be accomplished by air power; it could not be accomplished by any other means. Air power has, alone, a sword than can go through the land on whose frontiers an unbeaten army stands on guard. Of what avail will that huge army be against a combination of superior air power and superior sea power? It will be our task in 1941 to teach Germany that truth and to complete the demonstration of it in 1942. The Battle of Britain, 1940, has been only the first chapter of the story.



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